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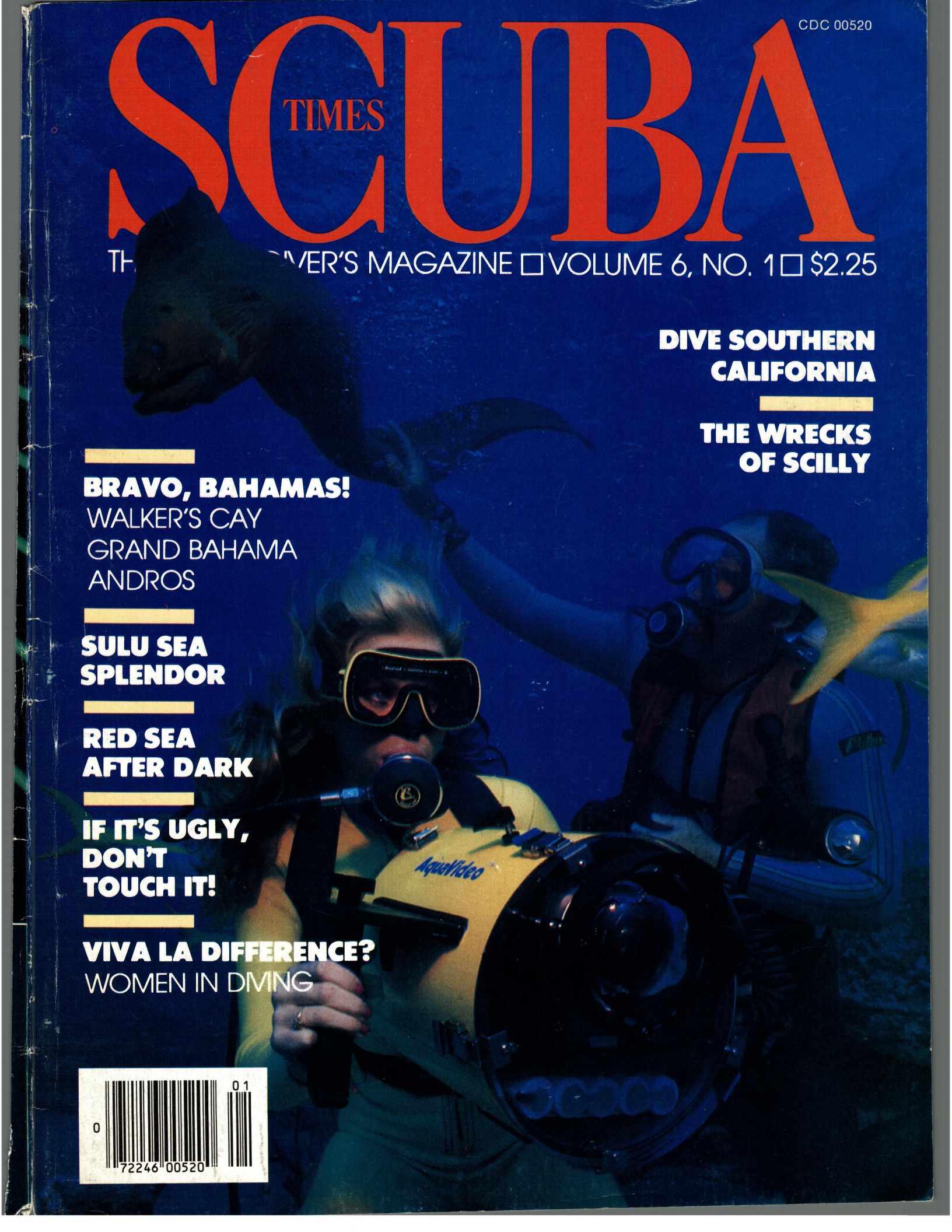

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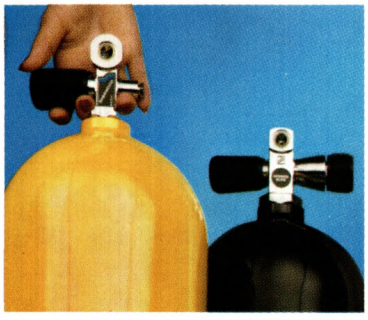

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The Editor's Line

It's no secret that Scuba Times is better than ever, and with our first issue of 1985, we continue our excellence by putting together an exciting selection of articles.

From Southern California to Egypt to the Philippines to the Bahamas, we cover the diverse styles and splendor of each area. The Isles of Scilly with its numerous ship wrecks is presented in our **What a Wreck** *section. Bill Lovin explains some underwater photomagic, and Hillary Hauser tells us about sharks that she has known. Also, we included a portfolio on one of the best u/w photographer in the business, Carl Roessler. Our* **Schools of Thought** *column offers the advice that, "If it's ugly, don't touch it!" and* **Wet and Wild** *covers a heated affair with the sun in the Bahamas.*

In the past, diving and travel have been our main emphasis; however, now that we are expanding, our additional pages will include information on underwater videography and commercial diving, too!

Every month we receive dozens of inquiries from photographers and writers who would like to submit photography and articles for possible use in our magazine. Here are a few quick tips to help you get the best possible consideration for your work. Color transparencies should be inserted into a clear plastic sheet and well protected with cardboard before shipment. All submissions should be shipped either Certified or Registered Mail, if they are valuable to the sender. We will return them to you the same way — provided you include sufficient postage on the self-addressed, stamped return envelope that should be included with all submissions.

We are unable to use color prints or duplicate slides for color separations, and submitting them instead of sharp, well exposed slides will considerably reduce the chance of your work being used. Articles should be typed, double-spaced, and only on one side of the page, please.

When considering an article, we look for topics of general interest that are a pleasure to read. We aren't looking for professional writers so much as divers who have something to share and are able to do so in interesting terms.

For the people interested in submitting work to our Editorial Department on speculation for publication in 1985, do so soon. Some of the places we plan to highlight this year are Grand Cayman, Hawaii, Great Lakes, Truk Lagoon, Bermuda, Turks, Caicos/Turks, Philippines, West Coast, and Florida.

Maybe there is a little Hemingway in you waiting to get out. Let us hear from you!

J'n Jernigan
Managing Editor

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Cover: Miami Playboy Club bunny and model Dana Mosher videotapes one of Capt. Spencer Slate's incredible eel shows in Key Largo's Pennekamp State Park. Photo by Rick Frehsee.

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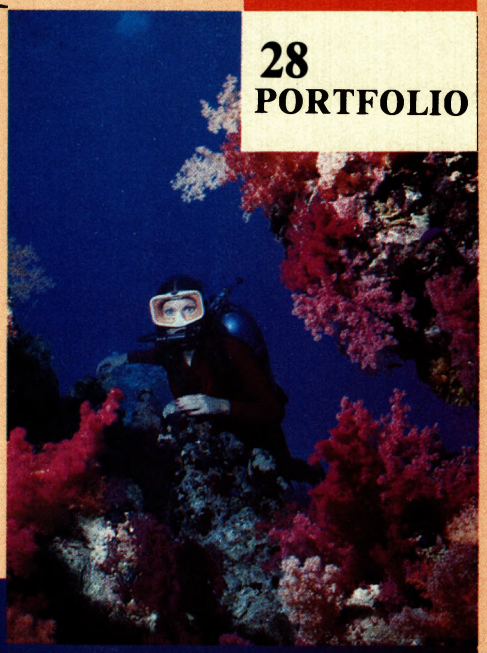

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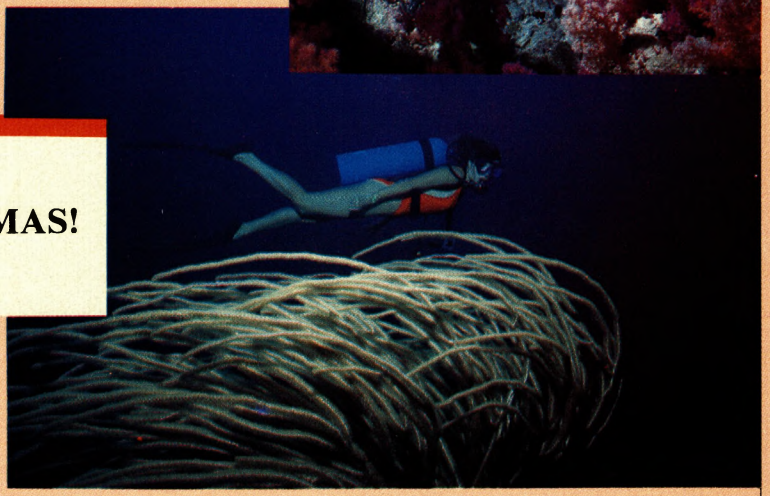

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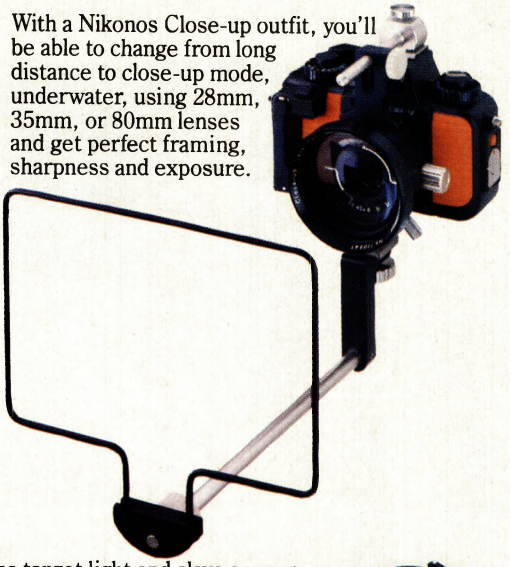

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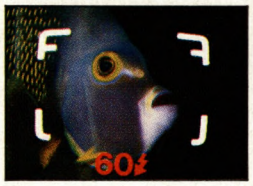

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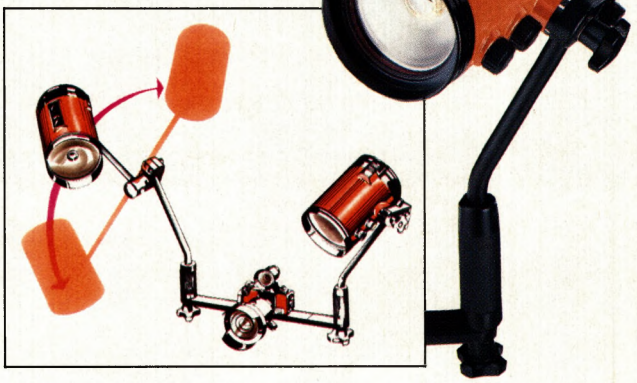

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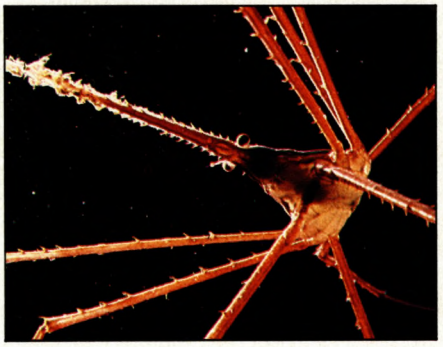

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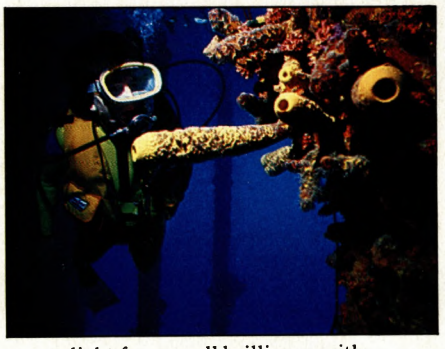

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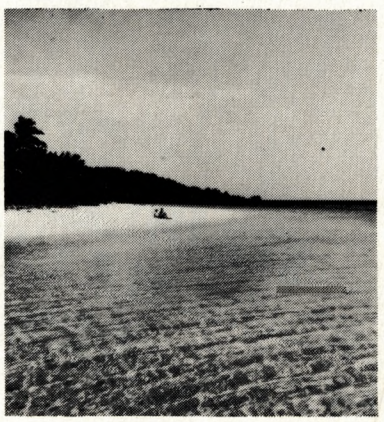

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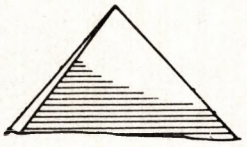

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abalone off Morro Bay, a great white swooped in out of nowhere and began circling him.

"There is nothing like a great white shark," Handelman said. "You have the instant feeling of fear - and also the instant feeling that you don't want to be where you are."

As the shark circled, he circled with it to keep it in view at all times. He had been told by a Navy diver friend of his that in such a situation he should never surface, but hide behind or under something. But, there was no ledge, no place to hide. He was at 50 feet in a wide open football field. The shark was beginning to make tighter circles, and Handelman turned faster at the end of his air hose.

He finally decided that the shark was serious.

"Screw it," he told himself. "Before I die of a heart attack, I'd rather get my rear end bitten off."

With that, he gave the emergency signal on his hose - four big pulls -and immediately his tender began to pull him in as fast as he could. Just as immediately, a reverse corkscrew effect took place. Because of all the turning he had been doing at the bottom, he began to spin like a top as he neared the surface.

"I fully expected to be dismembered," Handelman said. "I was frightened to death. I never touched the ladder or the side of the boat. I literally flew onto the deck while I was still spinning, collapsed, and my confused tender watched me lie there and breathe."

Rodney Fox, an Australian celebrity who survived the savage attack of a great white, was my dive guide during a *National Geographic* assignment in South Australia. Eighteen years ago, he was spearfishing off Aldinga Beach, near Adelaide, when suddenly he was clamped in the jaws of razor-sharp teeth. "I felt like a bone in the mouth of a dog," he told me.

The shark miraculously let him go, and in a series of other miracles he was on the operating table within an hour. Four hundred and sixty-two stitches in his left side, 92 stitches in his right hand (he went to punch the shark in the nose, but his hand disappeared down the shark's mouth), plus repairs to tendons, muscles and arteries - and Rodney was back in one piece.

Three months later, he was back in the water spearing fish for dinner.

"Seeing a Great White is probably the biggest 'high' in diving," says Carl Roessler, who has spent considerable time photographing the animals. "Looking into the face of one of those animals is indescribable. That shark is slow, deliberate - an immensely powerful animal. You never, never see it coming, even if you are waiting to see it. That's because it is extremely clever, as it must be, to be the greatest predator in the ocean."

"... There is nothing like a great white shark ... you have the instant feeling of fear — and ... that you don't want to be where you are."

Carcharodon carcharias - or "Whitey" - as the white shark is known, has no limits to its range. It lives in every ocean of the world as the king of the sea beasts. "The great white is nature's garbageman - efficient, inexpensive, and non-polluting. His job is to keep the oceans free from large masses of garbage. Be it a dead whale or a cardboard box, the great white devours all, leaving the oceans cleaner with his passing," says Valerie Taylor.

"Fouling areas," those rough-water places around rocks where seals and sea lions often maintain their rookeries, are white shark territories, and abalone divers often fish in such waters because this is where the abalone is, too. There are certain times of the year when even the most hardy divers avoid such areas, (such as summer, during pup season), and they think twice about diving in murky water where visibility is bad. White sharks that nip on a diver have usually made a mistake, thinking that they have a seal or sea lion, and will take off after the first go-around.

The shark swung around, came right in front of him, and Johnson said he could have touched it.

"I remember looking into that big black eye," he said, "and that snapped me out of it."

He signalled his tender, but the tender didn't read the frantic message at the other end of the hose. So, Johnson went straight for the surface in a tangle of air hose, fully expecting the shark to come after him just as bogeymen always chase those who run in the dark. After an eternity, he got back to the boat, but was so weak from panic, he couldn't pull himself over the side. His tender immediately

In July of 1975, Gary Johnson was diving the foul area of Point Conception, and that is when he saw his first white shark.

"'*Jaws*' was just out," Gary said, "and everyone was thinking about sharks. I was already nervous looking at the seals on the rocks where I was diving. I was working on an abalone at the bottom, about 20-25 feet, when all of a sudden I felt a huge jerk on my fin. I thought it was a sea lion, but when I looked around, I saw that it was a fish - a big one - and it was turning to come back. I immediately knew it was a white shark, and I'd never seen one before."

The first thing one wants to ask a person who has seen a great white shark is - what did the person do? On this point, Gary Johnson is quite profound.

"I went into a state of mild catatonia," he said.

He couldn't move, couldn't think. "I was like a rabbit in front of a snake," he said. "I knew I had to do something, but I couldn't do anything."

Creature Feature

Photography by Rodney Fox

Right: *"Meet me for lunch?" A great white shark.*

SHARKS WE HAVE KNOWN

Article by Hilary Hauser

In October, 1980, Annie Doubilet and I swam at 80 feet along the wall of Desco Reef, in the clear blue water of the Coral Sea, Australia. We could see the white sand bottom below us at 130 feet as we hugged the drop-off, and happily we inspected the purple coral, the multi-colored tropical fish, and the bright little nudibranches. Suddenly a grey reef shark materialized out of nowhere and buzzed us. It swam off into the distance, then turned sharply and came back. Then, from the original direction it had come, three more sharks swam in, and all of them began to cirele over the open bottom just off the reef. We began to back up, and I think Annie was trying to make herself small, just as I was.

Before we knew it, there were five sharks - the biggest one about five-and-a-half feet long, circling and watching us, never going too far out of our view. Then a little one, about three feet long, came up from behind us in a surprise approach and with this the other sharks began to behave as if a fish had been speared somewhere, swimming erratically and in ever-tighter cireles. The big one came in for a close pass and we saw that there were mating scars all over its back.

By this time, our own backs were up against the reef and we were trying not to breathe. The sharks continued to circle. We knew that reef sharks were not considered to be man-eaters, nor were they necessarily dangerous, but among the sharks, they are little nippers with nasty tempers. And, like all sharks, they had teeth.

Suddenly the big one turned, came straight at us like a torpedo, and didn't veer off until it was just two or three feet away. We were being dive-bombed!

A lot of people laugh when they're nervous, and that's what we did. Our masks filled up with water and meanwhile, I signalled to Annie that I had had enough of this treatment, and that I thought it was time to clear out. Together we swam up and over the reef wall and into a shallow area that was protected by a number of huge coral heads. Just as we got into the quiet of this subsea lagoon, we bumped smack into an enormous nurse shark which Annie later guessed to be 100 feet long. It looked like a submarine and I almost swallowed my regulator when I saw it.

Nurse sharks pose no threat to anyone because they are sluggish animals that lumber along, minding their own business. Nevertheless, Annie and I hurried even faster back to the boat and called it a day.

I've never seen a shark in all the diving I've done around Santa Barbara's channel islands, and in a way I feel gypped. There is something about those majestic beasts that make you stop and think a bit - even the little ones that are only three feet long. They belong to the sea, have evolved their perfect predatory form over millions of years, and command a certain respect. Some divers I know have had encounters with sharks that make me shake to think about them, but these experiences, rather than keeping them, or me, out of the water, make the ocean a much more mysterious and interesting place to explore.

The ultimate shark encounter, of course, is meeting up with a Great White - star of *JAWS,* master of the seas, eating machine *par excellence.*

Abalone divers around the Santa Barbara channel islands see great white sharks from time to time, and their stories of such sightings are things that make the harbor buzz. Divers see sharks almost every day as a matter of course, but great white sharks are something else.

I once asked Lad Handelman, an abalone diver from Santa Barbara, how anyone would know a great white shark if he, or she, saw it.

"The way you know if you've seen a great white shark," said Handelman, "is to see one."

Years ago, while he was diving

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INGERSOL-RAND MODEL compressor 15 cfm, 5000 psi (3) in stock rebuilt condition. $2,000.00 each. Call Underwater Designers Co., (904)246-6729 (2/84)

INGERSOL-RAND MODEL 223 5 CFM 3000 psi, 3 phase, 5 hp with Delmonox air purifier, automatic condensate drain system and magnet starter. $4,900. F.O.B. Joe Passero, 121 66th St. W. New York, NJ 07093 (201) 869-1506 or (201)434-8683 (4/83)

(15) DIVE BUSINESS FOR SALE

ESTABLISHED COMMERCIAL diving service serving Canada's Arctic. Employs two full time divers and two parttime. Specialists in remote Arctic ice diving. Serving Canada Northland for over twelve years. Contact: Wayne Gzowski, Box 2812, Yellowknife, N.W.T. XIA-2R1. (403) 873-2824.

(16) DIVE BUSINESS WANTED

ESTABLISHED DIVE BUSINESS must be in Texas, Gulf Coast states or Florida. Please send particulars to: Jerry Sweeney, 13607 Indian Creek, Houston, TX 77079 (713) 465-3725. (3/84)

(18) COMMERCIAL DIVE GEAR WANTED

WIDOLF, DESCO, SCOTT, OTHER full face masks. Send photo, statement of condition and price. Ramsay, Box 2351, Fargo, ND 58108.

PRIVATE COLLECTOR WILL PAY top price for all antique diving helmets, related gear, and old diving equipment catalogs. Miller-Dunn shallow water helmets especially desired. K.H.Ways, 1756 Rohr St., Glendale, CA 91202. (213) 240-5394.

(21) MISC. FOR SALE

UNDERWATER METAL DETECTOR Fishers Mark V w/14" coil. Headphones. Used 2 hours. Asking $250. Jim McNutt, 10801 Westland Dr., Knox, TN 37919. (615) 966-0948.

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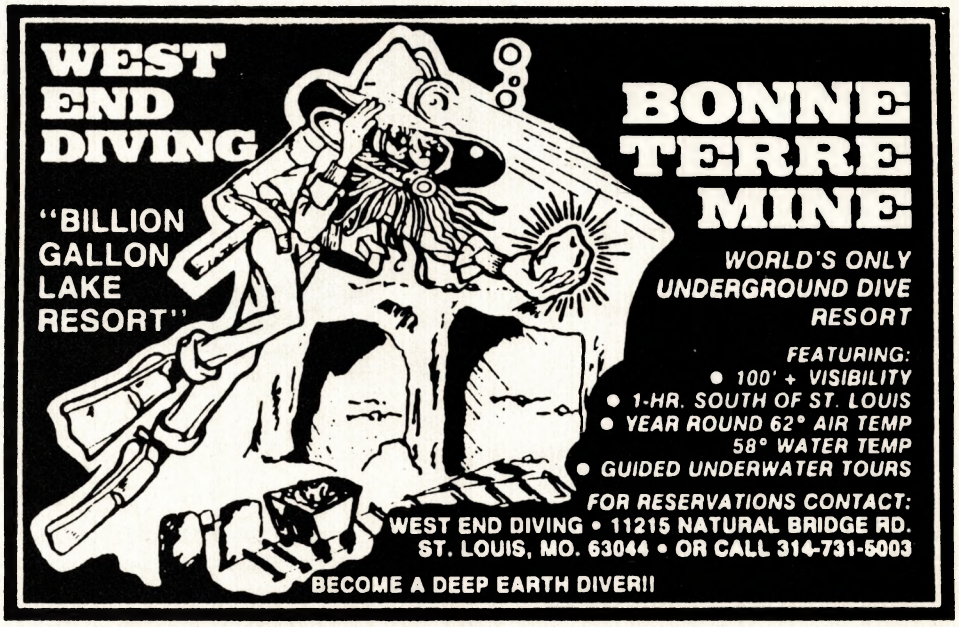

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(4) U/W CAMERAS WANTED

WIDE ANGLE LENSES, housings, strobes, etc. wanted; especially 16mm movie cameras, housings, and u/w movie lights. Contact: Divecon, P.O. Box G, Minocoua, WI 54548 (2/84)

OALYPSO CAMERAS WANTED any condition. Working ones preferred. Can trade for any make offered, but prefer to pay cash. Rolf Pludra, 2141 S. Germantown Rd., Old Town Center, Germantown, TN 38138 (901) 754-9055. After 7 p.m.

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(5) B C's FOR SALE

USED BCs AND BACKPACKS. Ideal for classes and Rentals. Keith Sliman, Seven Seas, 3625 Perkins, Baton Rouge, LA 70808, (504)389-0026

(10) WET SUITS WANTED

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PARAMEDIC WOULD LIKE JOB in diving or marine field. Texas and national certified. Have passport. Jack Williams, S. C. Rte, Box 203-D, Big Spring, TX 79720.

(12) DIVING EMPLOYMENT OFFERED

ESTABLISHED FLORIDA BASED juvenile rehabilitation organization seeks nationally certified diving instructors for exciting fulltime position in marine-oriented programs. Entry-level annual salary $11,500. Opportunities for growth and advancement excellent. Send resume to Linda Long, Associated Marine Institutes, 14802 N. Dale Mabry, Suite 300, Tampa, Florida 33618.

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MAINTENANCE BUSINESS Start your own maintenance business. Learn techniques in cleaning hulls, both by hydraulic scrubber and hand; replacing zincs; changing props; etc. Call (305) 588-7030 after 5pm. Rich Easton, Palm Beach, FL

(13) COMPRESSORS FOR SALE

CUSTOM—BUILT HOOKAH WITH skid and float gast 100 psi, 3 cfm, compressor B & S, 3HP engine, reserve tank, 3 regulators, 2 50-foot hoses, 2 30-foot hoses with quick disconnects. Support 3 divers 50 feet, 2 divers 80 feet. New June '84, used 40 hours. Excellent. Save $500. $900. Jon Noviaux, Pomona, CA —(714) 865-1598 home; (213) 283-6514 work.

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COMPRESSORS FOR SALE. THREE sizes 4 CFM, 1/3 CFM, 20 CFM. 4,500, 2,400, 5,000 PSI. Rebuilt and tested 20 CFM unit is 15 H.P., 3 phase. A. A. Wolff, RR 5, Jamestown, ND 58401. Or call (701) 252-1796.

TWO INGERSOL MODEL 223 3000 PSI 5 CFM 3 phase. One completely rebuilt 1983. $2500. Includes Delmonox purifier. Other runs, needs rebuilding. $600. W. Gardella, (203) 866-5555.

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Carefully describe the equipment for sale in order to avoid potential misunderstandings. Be certain that the buyer knows exactly what is being offered, in what condition, for how much and under what terms.

The seller is requested to offer the buyer an unconditional ten-day money-back guarantee. Anyone unwilling to make this offer must state "No Guarantee" in the ad, otherwise it is assumed that such a guarantee is offered. A buyer who elects to return for refund an item that has been properly described as to condition, wear, etc. pays shipping and insurance both ways unless other arrangements are made in advance. A refusal to honor a money-back guarantee will result in the seller's subscription and advertising rights.

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No Retail Classifieds

Advertising for new products or services may not run in the classified ad section. It is designed strictly for used equipment sold by private individuals and for subjects such as employment.

Insurance

All items should be insured for a realistic value, especially fragile items like camera equipment.

Effective July 1, 1984, because of the potential liability involved, *Scuba Times* will be unable to accept classified ads for regulators and tanks.

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Scuba Times Magazine, Classified Ads Dept., P.O. Box 6268, Pensacola, FL 32503

Classified Ad Form

10.00	10.40	10.80	11.20
11.80	12.00	12.40	12.80
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(3) U/W CAMERAS FOR SALE

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16MM MOVIE CAMERAS & HOUSING Hugyfotcustom aluminum U/W housing, two Bealieu R16 cameras, and one 200' mag. $995. or trade for good used 35mm equip. call Larry Coplin days at (313) 235-3531 or write to PO Box 832, Grand Blanc, MI 48439.

IKELITE HOUSING for Nikon F-3, 3 ports standard dome; 6½" macro dome, handle and mounting tray bracket, adaptor for Nikon strobe. New condition, used 2 weeks. Best offer. Call (301) 656-6655

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(see our ads on pages 9 & 45)

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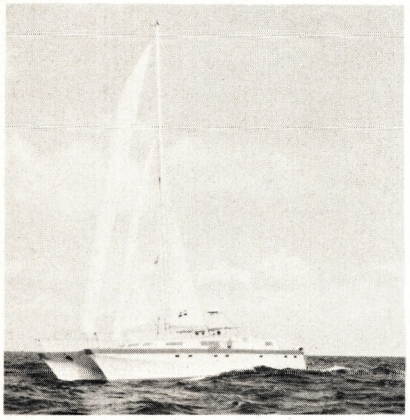

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Sugar & Spice

And Diving's Nice!

Article by Ken Nemeth

Cheryl, Kim and Kendra Kirz have been well known figures in the scuba diving industry for nearly a decade. "As children, we were always around the water, swimming and boating. It's ironic how we've made diving such an important part of our lives," says Kim.

Kim was hired by a Caribbean resort to act as divemaster for an unusually large dive group. Her length of stay was to be only one week. She became such an asset to the dive operation during that time that her stay was extended to six months. It was in this period that Kim developed the fine underwater photo modeling talents that she has added to her repertoire.

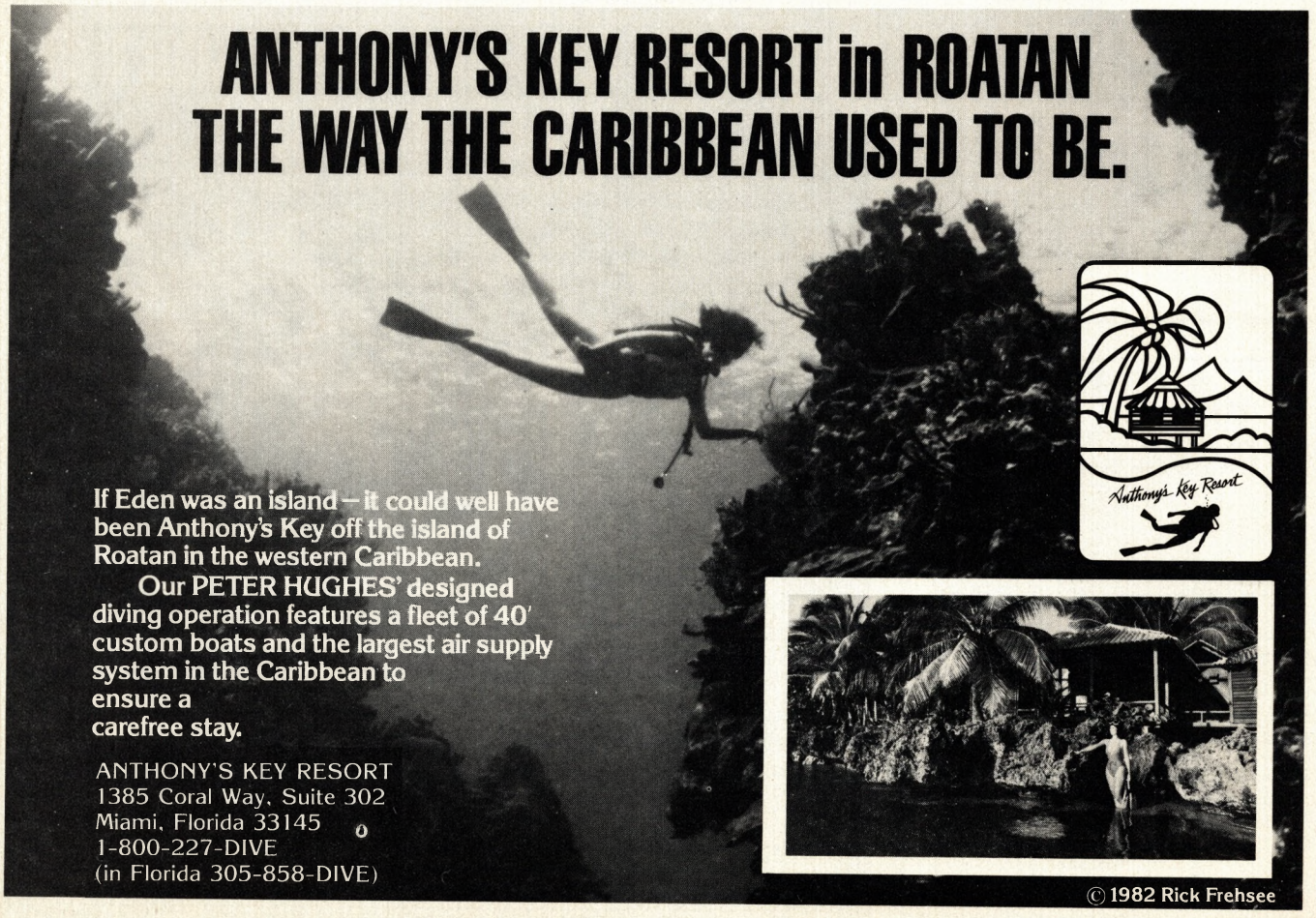
Cheryl became director of water sports for a popular Bahamian island at the top of Abaco chain, Walker's Cay. A mecca for fishing and boating enthusiasts as well as the idle rich, Walker's has become a paradise for divers. This was home to Cheryl Kirz for more than three years.

Walker's Cay managers have recognized Cheryl's diving prowess, her administrative talents and sales capabilities. In 1983, she was named director of sales for the island, a position she now holds.

As a scuba instructor, Kendra enjoys an excellent reputation among her peers in the Atlanta, Georgia, area. "Kendra is the kind of person that you want to work with all of your skittish students," says one instructor colleague. "If she can't get them down, nobody can."

Diving with all three Kirz sisters can be an intriguing experience. All are adventuresome and yet very ecology-minded. Undersea critters are handled carefully and always treated with respect. One impressed diver explained it this way. "Diving with those three women is unbelievable. They can find anything underwater. Not even King Neptune would argue that this dynamic trio belongs in the family of Mother Ocean!

Kendra, Cheryl and Kim Kirz



Continued from page 31

thought, "This place is close to paradise." Notice that I've written this whole article and only used the word paradise once; I was saving it for Neal Watson's place because that is exactly what it is — a Utopia for divers who are tired of the hustle-bustle of the industry.

It was that time again; we drove the ten miles back to our plane. We needed to get back and dry out the scuba gear and get on with the production of SCUBA TIMES.

Does just short of heaven sound like heavy praise? Well, don't take my word for it, find out for yourself!

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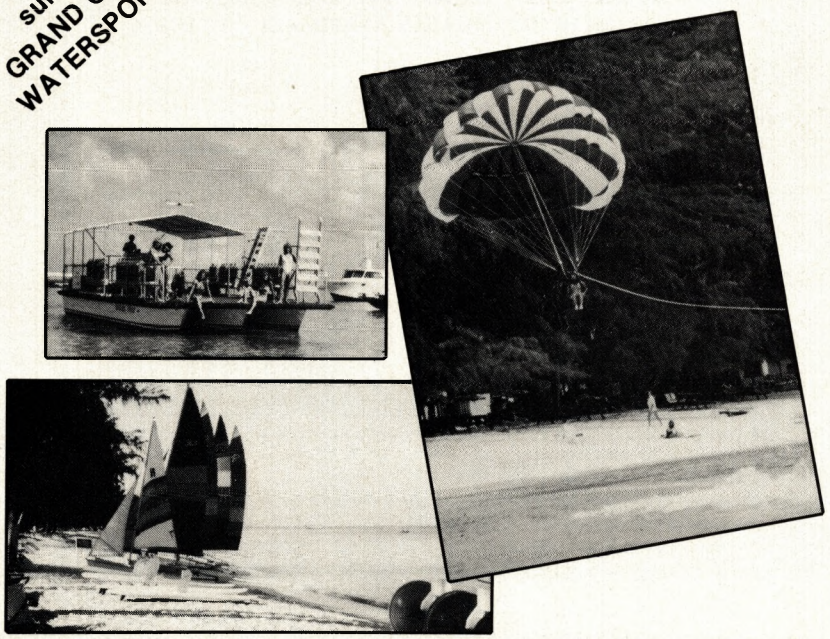

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one of the prettiest wrecks Sari and I have ever dived on!

The wreck is remarkably intact and sits upright on a bright sand and coral patch bottom. The bow is firmly embedded in the reef. This unnamed wreck appears to have been a fishing vessel. She's about 60 feet long and has a vibrant, living mantle of some of the most delicate and lovely coral with which a shipwreck could be adorned. We spent a late afternoon and half the next day filming and photographing this lovely jewel. It's the type of wreck that every diver dreams about. It was so beautiful that Sari and I almost felt as though we were trespassing. We took great care while swimming around it not to break any of the coral. A careless flipper could easily demolish some of the big plate coral topping the two upright stanchions at the stern of the ship or along the railings.

Numerous soft coral adorn the windows and doorway of the tiny wheelhouse. Rubbery, pliable leather coral are splattered along the sides of the vessel and hundreds of tiny fish flit about the wreck. At night under the bright intensity of our lights, we discovered flatworms mating in the sand near the stern, and I had a field day with my macro camera system. I have never seen so many tiny crabs and worms and other strange things that I haven't come across before. Sometimes the action was so thick, the flatworms and nudibranchs became obscured.

It was with happy hearts but saddened spirits that we left this little jewel of a wreck. I hope others who are lucky enough to visit her will treat her gently. It would be a shame to see it worn down by diver pressure.

The Philippines is a unique blend of contrasts. Manila is much like any major city with handsome buildings, comfortable hotels, traffic jams and the hustle and bustle of people who make up such a vibrant metropolis. The Jeepney is a flashy vehicle, which is an open air taxi, but colorfully decorated with two or more silver horses mounted on the hood or front bumper. Half and hour out of Manila, farmers plow their fields with carabao, a type of water buffalo.

A six-hour drive north will deliver you to Banaue where rice terraces that produce much of the Philippines rice crops were hand carved out of the mountain slopes over 2000 years ago. It's like stepping out of a time machine into a very lovely mountainous part of these islands.

There's a river called Pagsanian where boatmen paddle their customers up river in log canoes and forge a series of rapids by literally jumping out and running and hopping from rock to rock to make their way upstream. At the end everyone can raft under a waterfall to cool off.

Corregidor is a grim reminder of World War II where the American and Philippine forces beat back the invading Japanese. It was here that McArthur voiced his memorable statement, "I shall return."

Yes, there's much to see and do in the Philippines and yet, just an hour flight away is Hong Kong — a shopper's paradise. This too is usually worked into the end of most Poseidon Ventures dive tours. For more information about up-coming trips to the Philippines, contact Poseidon Ventures, 359 San Miguel Drive, Newport Beach, CA 92660 or call (800) 854-9334.

So many times I've had friends, or neighbors, or slightly envious strangers make a comment like this: "What a life you lead, all that time in the Philippines, diving and soaking up the sun. How lucky!" If only these people knew the back-breaking work involved just to get on location and to get under water, I don't think they'd be so cavalier about their attitude in regard to our work. We took 28 pieces of equipment with us on this trip, weighing 1500 lbs. When we returned, my next door neighbor threw that familiar line at me, so I sat down and finally figured out that to produce this type of film, where 70 to 80 percent of takes place under water, that for every hour I actually get to spend under water, it takes over 17

Continued on page 65

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Funkhauser from Helix in Chicago donated to the crew on a prior trip. It soon became a favorite with everybody and even played a small part in our film.

Bob, Sari and I made three trips out to Tubataha over a three week period and worked with four expert dive guides who are all PADI instructors: Jimmy Sy, Gill Corpuz, Vic Albaladejo and Geoffrey Castaneda. Each evening while travelling to another destination, they'd brief us on the next dive spot.

It's believed that Tubataha is actually the tip of one or two extinct volcanos. The inner lagoons are sand filled and encircled completely with coral like an atoll. After a checkout dive for everyone on the day of our departure, just an hour out from Puerto Princessa, on a rather nondescript bottom, we arrived at Tubataha about six the following morning.

I'll never forget my first dive there. We travelled by outboard from the *Lady* about a quarter of a mile slightly north from the S.W. corner of the south reef and anchored at the edge of the wall. The sun was well up off the horizon and the water sparkled. Through its transparent surface, the reef looked rich with coral. And when I dropped into the water and the bubbles cleared, it fairly took my breath away. Like the Red Sea, hundreds of tiny orange and purple jewel fish danced in the morning sunlight, obviously delighted with thelr station in life. And the varieties of coral seemed endless. Great crowns and tables of plate coral abounded among a field of white stinging hydroids. Other coral were literally of a distinct pink, or blue, or green color. Stretching out from the edge that was barely ten feet deep was the deep rich blue of the open ocean.

We pushed out and drifted down the face of a sheer wall skimming over a dozen different varieties of leather coral. At fifty feet, clumps of pink, orange and yellow soft coral elther grew on the wall or hung on the tips of whip-like coral. We saw more varieties of crionoids here than anywhere. They blossomed in violent crimson, pure white, yellow, green and black.

I decided to film some of our master shots here of Bob and Sari descending with the cable lights and working on this gorgeous drop-off. The sun was just peeking over the edge of the wall as they drifted down with twin lights blazing and Bob shooting stills. A manta ray soared overhead, and we spotted a couple of sharks. Great schools of surgeon and unicorn fish soared in the blue. It was so good to be in the water again!

We were experiencing a change of moons from a quarter to half and at various locations, we ran into strong tidal flows and limited visibility. So we worked accordingly, searching for spots along the wall where we could work closely, out of the current. For the most part, visibility ranged around 80 feet. Some days, it would drop to 60 feet, but on others, we could easily see 125 feet underwater both vertically and horizontally. Our dive spots consisted of four locations: the S.E. corner of the south reef, the S.E. and N.W. corners of the north reef and the south side of Jessie Beazely, a third reef named after an English hydrographer. Mariners must be very cautious sailing out here for a couple of reasons: one is that although there is a lighthouse on the S.E. corner of the south reef, the light and batteries were stolen, so at night, there is no indication that the reefs are there. At low tide, much of the reef breaks the surface. Also, modern day pirates and smugglers frequent these waters. The *Lady of the Sea* is registered as a coast guard auxillary cruiser, and early one morning, when arriving at a new dive location, a speedy cruiser took off when they saw the coast guard insignia on the side of the ship.

"There were four mantas sweeping back and forth with their cavernous mouths expanded ..."

It was an exhausting three weeks that we spent diving at Tubataha. The weather was perfect, so we took advantage of it and rolled a lot of film through the cameras. One day and night, I made eight dives. The night dives were espeoially fun because we could get so close to some of the more beautiful angelfish such as the Emperor and blue-faced angel that were generally a little skittish during the day.

With three large meals a day being served, we devoured great quantities of food, and yet, we all lost weight from so much physical activity. On the days when the water was literally like a sheet of glass, without a breeze, it was hot. The best way to escape the heat was to be in the water, or in our bunks at night when the air conditioning was turned on. Sleeping aboard the *Lady* was comfortable, but there were nights when we chose to sleep on deck under a billion stars.

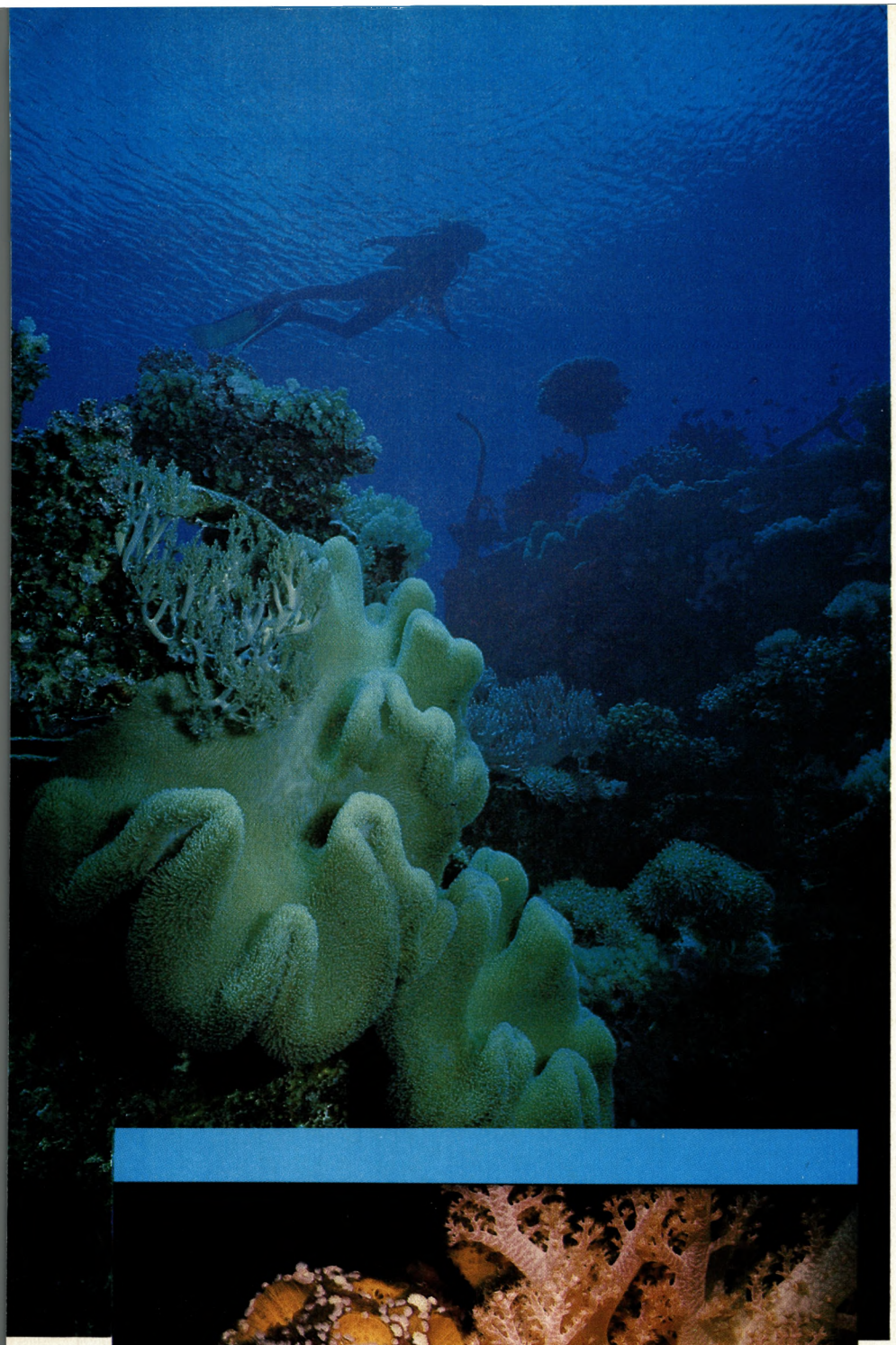
One morning we woke up to a magnificent sunrise playing onto the still sea. Gentle splashing drifted across the water from a hundred yards off the bow, breaking the quiet dawn. Manta rays were feeding at the surface.

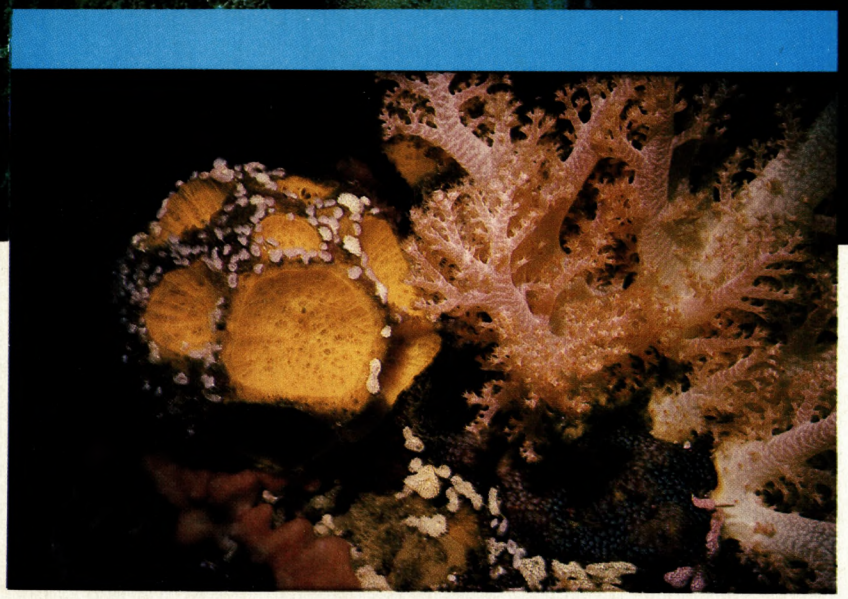
Bill Gussman, Sari and I slipped into the water when most of the others were still asleep. We swam into the shallows with our cameras. The water was warm, but numerous tiny stinging things were having a field day on our near-naked bodies. The water was clear, but rich with plankton, and this is what attracted the mantas to feed. Being so close to the equator, the sun rises fast, and by the time we spotted the rays, we had enough light by which to shoot.

There were four mantas sweeping back and forth with their cavernous mouths expanded to flood vast quantities of water through their gills, straining the life-giving miniature foodstuff. The rays were small, about five to six feet across the wing spread, but they brought back fine memories of their giant kin that we rode on and filmed in the Sea of Cortez. They'd make a lelsurely run past us, feeding and swooping and banking as they approached. At first, they seemed shy, but after a while, they let us get quite close. At times, I had a couple of them practically bump into my camera; they were so intent on feeding. When they disappeared, we'd hang at the surface and sure enough, two or three minutes later, they'd make the return run. We spent an hour with them, and soon, half a dozen other divers joined us. It was a pleasant way to begin a day of diving.

Not far from the lighthouse on the south reef is the *Delsan,* a rust riddled shipwreck. She stands high and dry on the reef and is a poignant reminder of how fallible even great steel ships are when exposed to the forces of nature and the absence of proper lighthouse facilities. The *Delsan* isn't really a diveable wreck, and as the Tubataha reefs drop off so quickly and are so steep, a good wreck for diving hasn't as yet been located. Dempsey Pagan, Jr., an American archaeologist who has lived in Manila for the last 12 years, told me about some Ming dynasty pottery that was discovered out here, and Pir Castaneda, one of the authors of the excellent *Diver's Guide to the Phillipines,* told me that he discovered a giant anchor and followed its chain down over the drop off to over 150 feet without seeing the end of it, or what might be attached to it.

In the Philippines guide, there is a description of a shipwreck north of Apo Reef that apparently has been sunk for about 25 years. I needed a wreck for the film, so at the end out our Tubataha segment of the trip, we ran out of Manila on another commercial dive boat to Apo. This too is a great diving location but from what I saw, not nearly as dynamic as the Tubataha reefs. After futilely searching for the wreck for two days, the lighthouse keeper finally put us onto it. She lies off the southeast reef in 35 feet of water and is





Above: *Sari Gains McKenney on a Japanese fishing wreck at Apo Reef. This beautiful wreck has been underwater for about 25 years.*

Unusual yellow ball sponge and soft coral.

the numerous sharks until we had enough material in the can. Tubataha was paying off with some exciting diving.

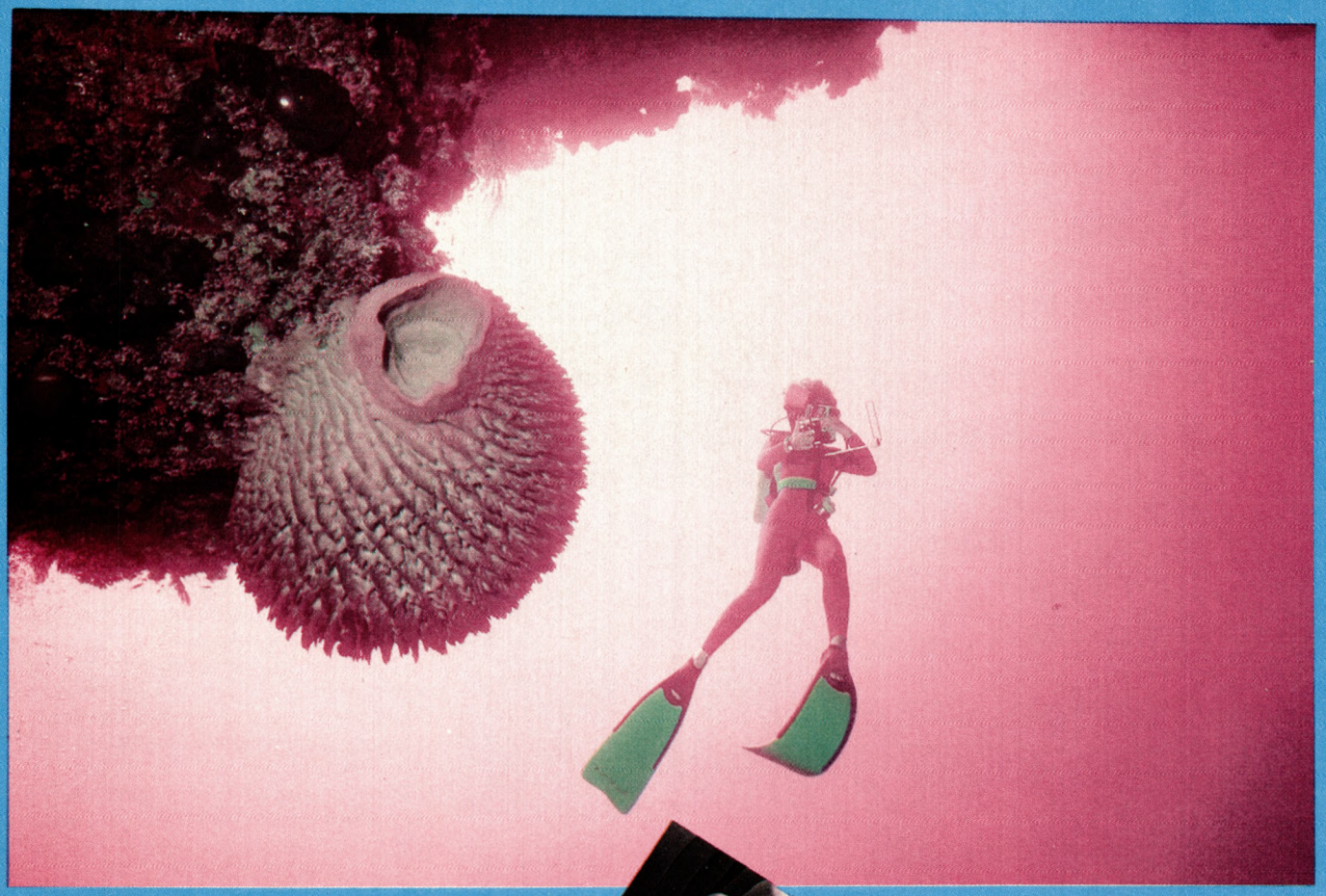
Art Travers, owner of Poseidon Ventures in Newport Beach, California, had suggested a few months earlier that we produce a film about diving in the Philippines, so Bob and I had looked at it and agreed that it would probably provide enough variety to make an interesting film. With the backing of Gloria Maris Adventures, Inc., owner of the *Lady of the Sea,* and assisted by Philippines Ministry of Tourism, Philippine Air Lines, the Western Command of the Armed Forces of the Philippines, the Hyatt Regency Hotel in Manilla, Rafols Hotel in Puerto Princessa and the Banaue Hotel, we made it happen. After five weeks on location, we had our footage, but humbly, we realized there was more to the Philippines than we could hope to see in just five weeks.

The Sulu Sea is an exotic body of water that washes up against the main Philippine Islands of Palawan to the west, Mindoro to the north and Panay and Negros eastward. In the left hand corner is Borneo, and Mindinao traps it on the S.E. quadrant. The Sulu Sea is roughly 1200 miles long and 800 miles wide.

The 16-hour flight out of Los Angeles aboard Philippine Airlines proved to be one of the best flights any of us had experienced. PAL serves the California cities of L.A. and San Francisco; Brisbane, Sydney and Melbourne in Australia; and 15 major cities from Tokyo to London. We quickly learned the meaning of the word "hospit-able." The Filipinos are some of the most gracious and helpful people we have ever worked with. From the moment we stepped into the spacious 747, until we ended our trip five weeks later, we fell in love with these wonderful people. They genuinely like Americans, but, then, I suspect they really like everyone.

Two lovely ladies met us at the airport -- Theresa Jison, who owns Gloria Maris Adventures and her assistant Joy Madeso. Theresa's partner, Roger Imperio, an officer in the air force whom I had met once before, was also there to expedite us through customs and immigration and get us to the hotel. We spent a day in Manilla, trying to recover from jet lag before flying to Puerto Princessa where we boarded the *Lady of the Sea* for the 110 trip out to Tubataha.

Now, I've been on a lot of dive boats during the course of my career, but the *Lady* was a marvelous surprise. There were 16 crew members to look after a complement of 15 divers. Theresa had snagged a five-star chef from one of the hotels. Cuisine was superb, absolutely the best I've had on any dive trip. There was even a mascot parrot named Lynn (actually Lynn was a boy parrot) that Lynn



looked down into the twilight gloom and counted at least ten fairly large sharks scurrying about near the sloping bottom 30 feet deeper. Some of them seemed awfully big for white tips, but then I remembered Gill Corpuz, one of the dive guides, telling me that here at "shark corner," there were big oceanic white tips and bull sharks, too. And big they were! One ten-footer shot up at me, made an inquisitive pass, then shot back down into the pack. I swam up to Bob and Sari just as they were looking into a cave. I filmed their slipping into the entrance, then ducked in myself. Immediately, off to the right, I spotted a six foot white tip, so I turned on my movie light and got a good scene of the shark darting back and forth trying to get past me. But it was trapped, so it turned around and shot into a tight crevice at the rear of the cave. It was a good scene. We checked out pressure gauges and made our ascent to 15 feet where we decompressed before surfacing.

We had worked shark corner for two days, drifting with the current and filming

Above: *Sari Gains McKenny descending over a wall at Jessie Beasley.*

Right: *Clown fish in anemone.*

SPLENDORS OF THE SULU SEA

Article by Jack McKinney

We had just surfaced in the middle of the Sulu Sea to an incredibly beautiful sunset. The water was like burnished pewter reflecting a leaden blue and titian orange that only a magnificent sunset can play onto a still sea. I lay back on the surface, supported by the air in my stabilizing jacket, and focused on a quarter moon riding high in the evening sky. My wife, Sari, and our good friend Bob Abrams were with me. We floated, cameras and lights in hand, marveling at the magnificent sight.

A quarter of a mile away was the *Lady of the Sea,* our boat and home for three weeks. Jimmy Dotimis, the very capable outboard mechanic and dive tender, was heading out in the dinghy to pick us up.

Half an hour earlier, we had stepped off the stern of the *Lady* for a twilight dive to hopefully catch some of the white tip sharks settling down for the night in one or two of the numerous caves along the wall at the N.E. corner of the north reef of Tubataha.

The current had been ripping, and we tore along the wall at 120 feet looking for the caves that the sharks frequented. On an earlier dive, we had spotted white tip and nurse sharks sleeping in them, so we planned to shoot a shark sequence for the new film we were working on about the Philippines. I had dropped to 140 feet,

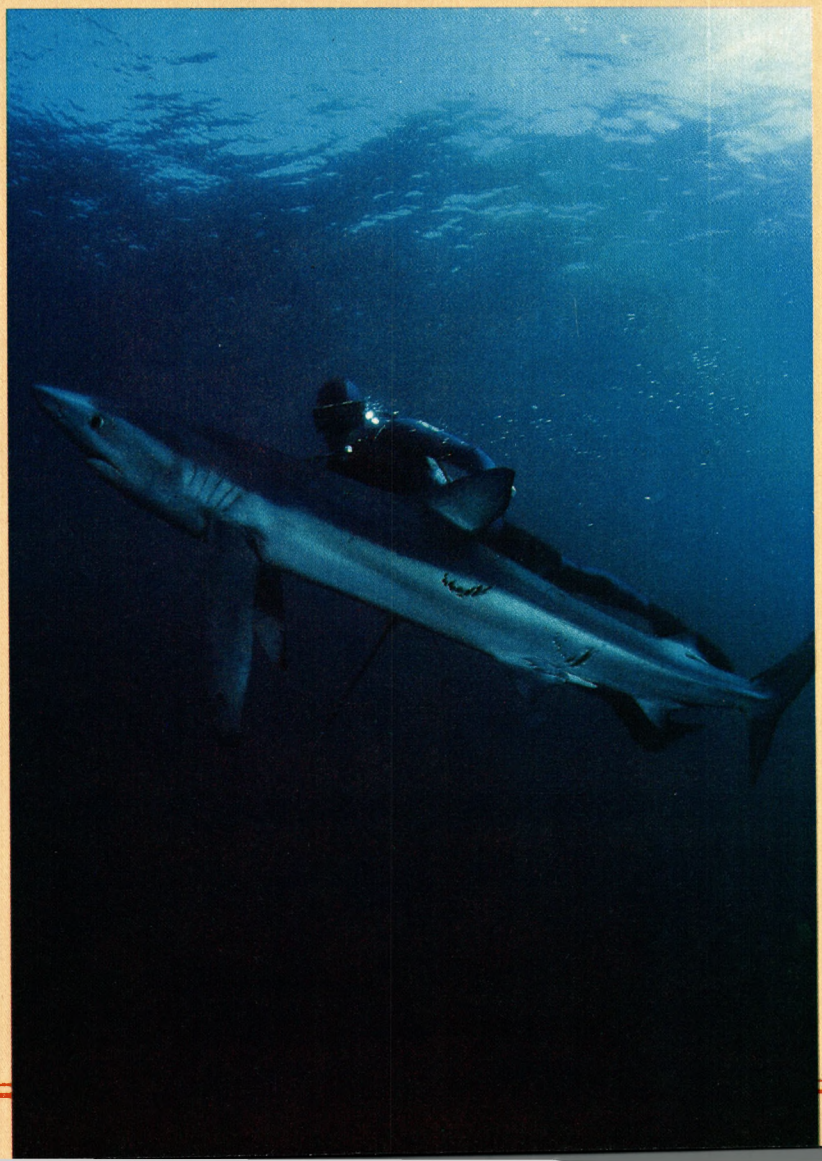
Photography by Jack McKinney

An aerial view of the Tubataha Reefs.

Perhaps the most interesting marine phenomena that occurs on a reasonably regular basis in Southern California is the squid runs of winter. During some, but not all winters, squid will gather by the millions to mate, lay eggs, and die. The heaviest runs tend to occur in sandy canyons like the La Jolla submarine canyon which parallels the north coast of San Diego and off the west end of Catalina Island. While preservation of the species is guaranteed, the scene attracts a wide variety of predators that come to feed on the eggs and dying adults. During heavy runs, I have seen blue sharks, pilot whales, black sea bass, white sea bass, horn sharks, angel sharks, bat rays and more feeding on the squid. The bat rays and sharks are often stuffed so full of squid that they swim along with their stomachs totally distended and squid hanging out of their mouths, clumsily banging into anything that gets in the way. During night dives, I have had bat ray after bat ray repeatedly bang into my dive light as if they are so full and mesmerized that they lose their natural fear of divers. At times like these, the once obviously sandy bottom looks like a shag carpet made from squid eggs with the eggs being piled almost 3 feet high everywhere you look. And in many places, the predators are piled up on each other as they munch away on squid.

And for those with a desire to do some diving that is really out of the ordinary, you can always try baiting sharks out in the open sea. With a little know how and a bit of luck, you can attract 20 to 50 blue sharks on a good day. At times, we have had well over 100 blues and makos around our shark cage. Imagine yourself 50 miles out to sea, suspended over several thousand feet of water, while being surrounded by 50 to 100 sharks. The thought can sound a little scary, but I have spent hundreds of hours in similar situations, and I can still count all my fingers and toes. What I cannot count is all the unexpected sights I have witnessed, such as seeing a marlin cruise within 20 feet of the cage. It takes some forethought and a sense of caution to develop the proper safety techniques, but rest assured, diving with sharks is much safer than being in the heart of L.A. after dark. Blue sharks tend to be bold, but rather slow moving and easy to work with. Makos, on the other hand, are built for power and speed, and look like a torpedo with a collection of teeth that are too large to fit inside their mouths. From inside the protective confines of a shark cage, you can safely observe creatures that are rarely seen by divers in a part of the ocean that remains virtually unexplored by man. Over the years, I have learned that you can safely venture out of the cage if you so desire. Of course, you should remember to close the door to the cage behind you when you depart. More than once, when the shark action has gotten a bit more intense than we anticipated, my buddies and I have retreated to the cage only to find an agitated blue shark banging around inside.

After a weekend of diving in Southern California, it sometimes humors me to come home and read advertisements about tropical resorts where you swim from reef to reef feeding tame angel fish and eels, knowing exactly what you will encounter at every feeding station. I will be the first to say that I have enjoyed diving in warm, clear tropical waters, but I'll quickly add that if it is a combination of beauty and adventure you seeking, in my opinion, you can't top the wilderness of the Southern California Pacific.



Right: *Diver joins scarred blue shark.*

Left: *A harbor seal catching some rays.*

changing colors almost as fast as you blink your eyes, and they can easily slip in and out of holes that are much smaller than they are by changing shape. Despite their shy nature, octopi, too, can be lured away from the reef with an offering of bait.

Cooler waters are often noted for their stunning displays of invertebrate life, and California is no exception. The rocks are often covered with red, orange and pink corynactus anemones. Magnificent samples of purple coral decorate many of the deeper reefs at Farnsworth Banks off Catalina Island and at Nine Fathoms off the north end of San Clemente Island. Though not a true reef building coral, purple coral adds rich coloration to the beautiful bottom terrain at both sites. Red and gold sea fans can be found in many of the areas where slight currents provide the needed nutrition, and a variety of starfish ranging in color from bright orange, to blue, to red are commonly found. Filming these subjects or using them to create enhancing backgrounds for photographs creates unparalleled opportunities for those with a creative eye.

Being a firm believer that "variety is spice of diving," I am not one to compare various dive spots, but I will say that 2 of my favorite in Southern California are at Seal Cove on the weather side of San Clemente Island and at Begg Rock. Seal Cove is a well known sea lion rookery, and in the fall it is not unusual to encounter more than 50 sea lions swimming through thick kelp forests. Curious pups are likely to swim right up to you or play chase with each other as they race around the kelp. It is a difficult scene to surpass. Begg Rock was named for Captain Charles Begg, the first person to sail his boat onto the rock. Though it would be regarded as an incompetent act today, it was certainly understandable when the region was uncharted. The rock just barely breaks the surface of the open sea and then falls quickly along a razorback reef to a depth of several hundred feet. Being located in the open ocean, the area is teeming with marine life. The bottom is covered with colorful invertebrates, the most noteworthy being the variety of anemones. Large rockfish and black sea bass are often seen hovering near the reef in deep water, and it is quite common to see a blue shark or two cruise overhead.

California gray whales migrate along the coast of western America during the winter months, and while it is not a common event, it is certainly not unheard of to see one during a dive in the kelp.

To watch a gray whale approach you while on the surface is to watch the horizon change shape as the top of the whale's head blocks out a portion of the sky. The first time I dived with a gray I was in very poor water conditions off the coast of Mexico. I saw the whale on the surface, took a breath and dived down only to run into a wall of animal. The whale was perfectly still and it was so large I couldn't get oriented. I didn't know which way to swim to film the animal's head. I took a guess and ended up with a photograph of the tail. Thank goodness, gray whales are gentle creatures.

Yet during the in-water encounters that I have enjoyed, it was not their size, but rather their superb body control that impressed me the most. Grays appear to be keenly aware of the presence of divers. They can repeatedly swim within a few inches of a diver and never make contact. At such a time, however, just the exhalation of air from their lungs is enough to dislodge your mask! I know, I once lost a mask when a whale exhaled from a few feet below me. Even so, I have never been able to resist the opportunity to reach out and touch the rubbery skin or to swim toward the face so I could stare into the tennis ball sized eye of some of the sea's most intriguing creatures. Given the opportunity, I am certain you, too, would not be able to resist.

Other marine mammals add greatly to the appeal of diving in Southern California. Swimming with California sea lions and harbor seals is the type of experience divers never forget. Combining grace, speed, beauty and superb coordination, these mammals are the envy of their human counterparts. Sea lion pups are especially playful, often approaching divers as they display an intriguing sense of curiosity. At times sea lions will swim full speed ahead directly toward a diver until they are within 2 or 3 feet only to veer away at the last possible instant. Then, they might disappear in the distance only to quickly reappear. Again, they will swim almost to within touching distance, then stop, and holding themselves upside down in the water, they will begin to blow bubbles in your face as if to mimic you. But as soon as you reach out to touch them, they will almost always speed away only to return again within a matter of minutes to continue a game in which they create all the rules. Their aquatic superiority is immediately evident and it does not take them long to realize that in an encounter with divers, they are clearly in control.

Immature sea lions of both sexes are often playful as well, but bulls with a harem can be overtly aggressive toward divers. Though I have never known a diver to be bitten by a bull, on several occasions I have seen a bull rush divers that seemed to be within the territorial hounds of the bull's harem. The bulls bark, blow bubbles and swim with mouths agape right at intruders. Though the bulls are probably more bark than bite, I tend to back off just from considering the fact that a full grown bull will weigh as much as 700 pounds.

through an immense underwater cathedral. Few places on earth are as striking. Shimmering rays of sunlight penetrate the thick surface canopy and dance across the golden fronds as waves roll gently overhead. Bright green eel grass moves rhythmically along the bottom while gold and yellow kelp fish keep time with the kelp fronds as they shift back and forth in the surge. And as far as you can see, the entire forest sways gently back and forth, moving in perfect synchronization with the ocean's ebb and flow.

While a kelp forest is a beautiful sight to behold, the overwhelming abundance of marine life associated with the kelp eco system is the major attraction for divers. As Charles Darwin noted in 1834, "The number of living creatures of all orders, whose existence intimately depends on the kelp is wonderful. A great volume may be written describing the inhabitants of one of these beds of seaweed ... I can only compare these great aquatic forests ... with terrestrial ones in the intertropical regions. Yet, if in any country a forest was destroyed, I do not believe nearly so many species of animals would perish as would here, from the destruction of the kelp."

Almost always, as soon as divers enter a kelp forest, bright orange garibaldi swim up to greet and examine them. These beautiful damselfish make ideal photographic subjects as they stand out against a background of golden kelp and blue-green water.

The rocky reef below provides homes and protection for many interesting species as well. Among my favorites are the California moray eels. Primarily nocturnal by nature, these shy creatures can be lured away from the protective confines of the reef with a tempting handful of anchovies. Morays can be found in almost any reef and with just a little experience, an attentive diver can learn to maneuver them into the open with matador-like control of the bait. Once away from the rocks, the eels are usually easy to pet.

Lobsters and abalone, favorite morsels for the taste buds of California divers, often share a crevice with an eel. California lobsters do not possess a claw as do their New England counterparts, but it still requires a quick pair of hands and an agile mind to bag a limit. Octopi are commonly seen in and around the reefs as well. Masters of camouflage and deception, these elever mollusks are always a pleasure to find. They are capable of

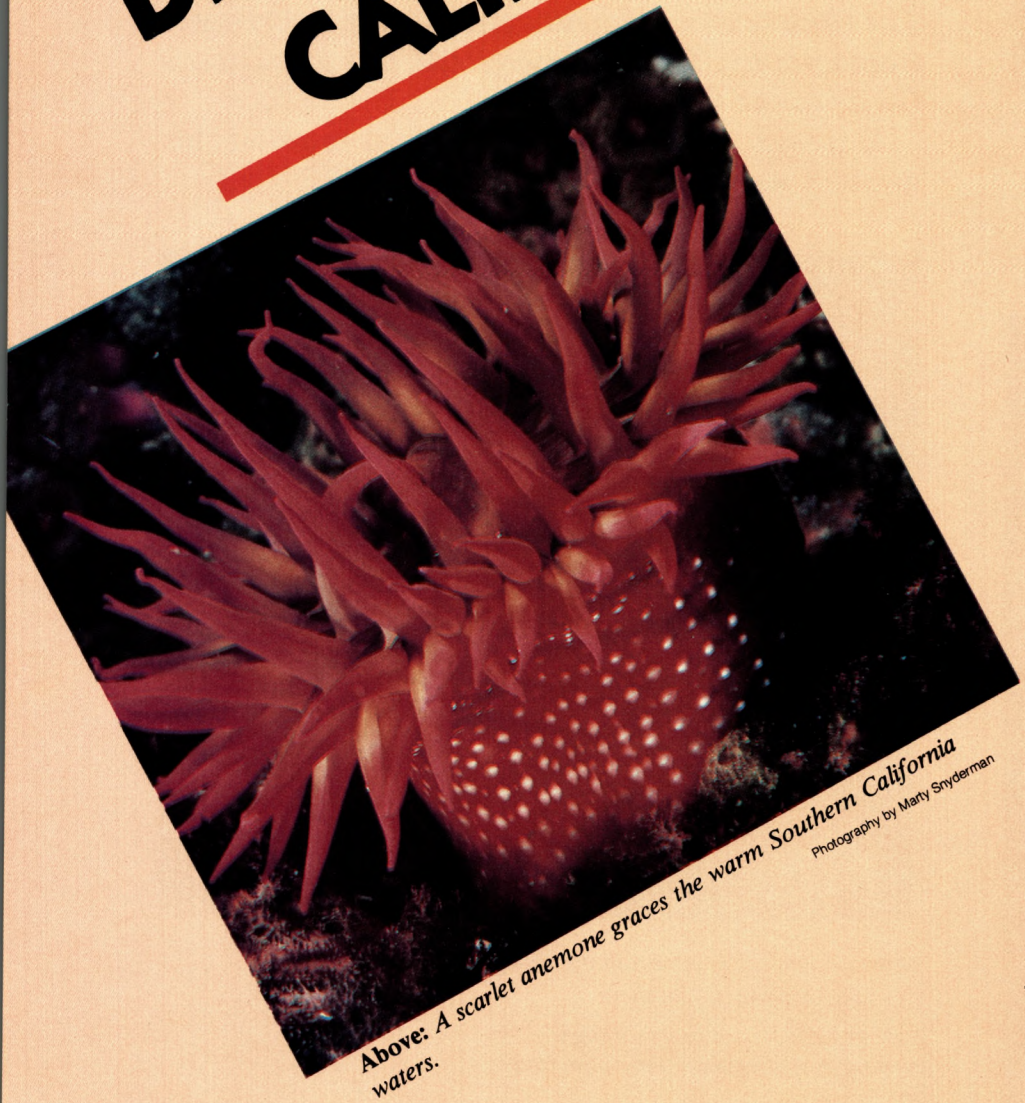
Above: *Diver in an expansive kelp forest.*

Inset: *The beautiful symmetry of a kelp branch*

"... On sunny days, when the water is flat and visibility exceeds 100 feet, I get the feeling that I am swimming through an immense underwater cathedral ..."

DIVE SOUTHERN CALIFORNIA

Article by Marty Snyderman



Above: *A scarlet anemone graces the warm Southern California waters.*

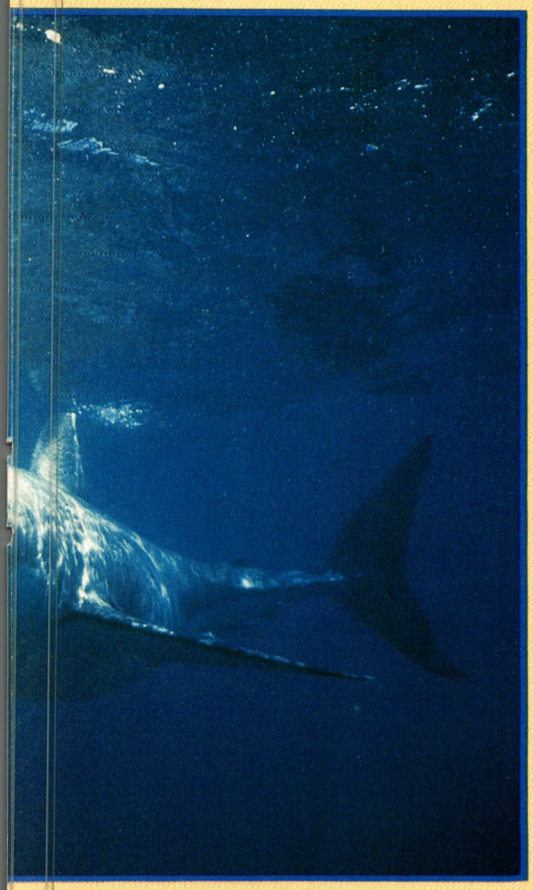
Photography by Marty Snyderman

Of all the places I have ever dived, the waters of the Southern California Pacific are by far and away the most underrated. Having lived in San Diego for the past 9 years, I now consider myself a "native" Californian and will freely admit to a regional bias. But I want you to know, my diving experiences from Southern California rank at the top of my list in a career of expeditions that has taken me to oceans all over the world.

If you pick up a copy of many diving magazines, you are likely to read about the bathtub warm water and 100 foot plus visibility of some tropical paradise. No doubt about it, warm, clear water is nice, but in Southern California, there is a lot more to consider than water temperature and visibility. In the waters of the Southern California Pacific, you can dive in majestic kelp forests, find yourself eyeball to eyeball with a whale, take plenty of game if you are reasonably skilled, and best of all, enjoy as much in the way of adventure as you can in any ocean on earth.

Despite the fact that Southern California contains some of the most heavily crowded metropolitan areas in the world, there is a striking contrast between the overly populated clties whose motto seems to be "life in the fast lane" and the most untarnished frontier of Pacific Ocean. In coastal waters only a few miles away from the heart of Los Angeles, San Diego, and Santa Barbara, divers can escape into a marine wilderness that is rich in sea life and diving adventure. Though certainly threatened by the invasion of the industrialized world, in a general sense, the area's marine wildlife populations remain as they have been for thousands of years. For that reason, I still feel a rush of adrenalin when I hit the water during gray whale season, plunge into a Channel Island sea lion rookery, or go over the open ocean drop-offs at Begg Rock near San Nicholas Island. It is that feeling of excitement, that gut level belief that I am going to experience something special, but I don't know what it is, which provides the adrenalin rush associated with true adventure. For me, the intensity of adventure is much more important than water temperature or another 25 feet of visibility.

To many people, diving in Southern California is synonymous with diving the kelp forests. Certainly the kelp is a major attraction. On sunny days, when the water is flat and visibility exceeds 100 feet, I get the feeling that I am swimming

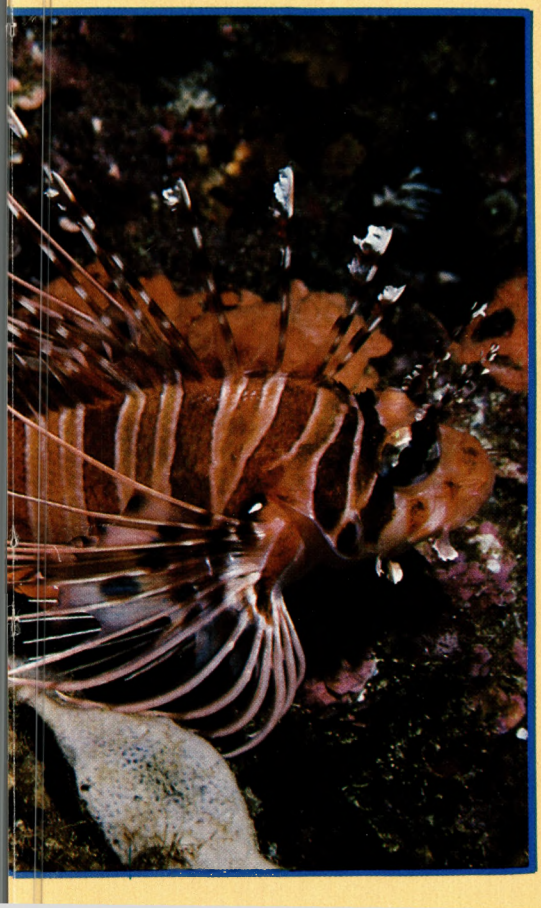


Carl Roessler

In the world of diving, a name of prominence that quickly comes to mind is that of Carl Roessler. As the owner of one of the world's first and largest travel agency exclusively devoted to dive vacations, See & Sea, Carl spends about half of each year travelling on dive cruises all over the world.

Carl Roessler's articles and spectacular u/w photographs have been published in leading American and European magazines. Also, Carl has published *The Underwater Wilderness, Mastering Underwater Photography, The Undersea Predators* and *Diver's Guide to the Cayman Islands.*

It is with pleasure that we present more of this master's work.



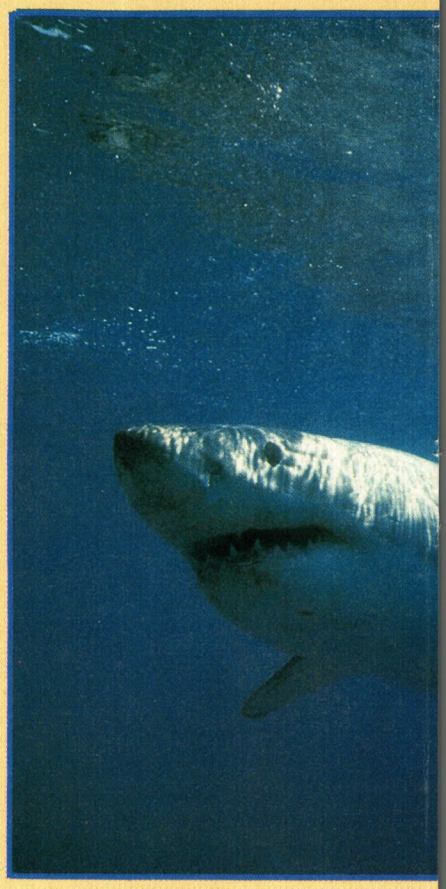
Above: *A lionfish* Brachirus *in the Philippines.*

Top Left: *A Great White shark.*

Bottom Left: *Jessica peers through opening in spectacular coral in the Red Sea.*

Far Left: *Jessica and cuttlefish Sepia in the Philippines.*

PORTFOLIO



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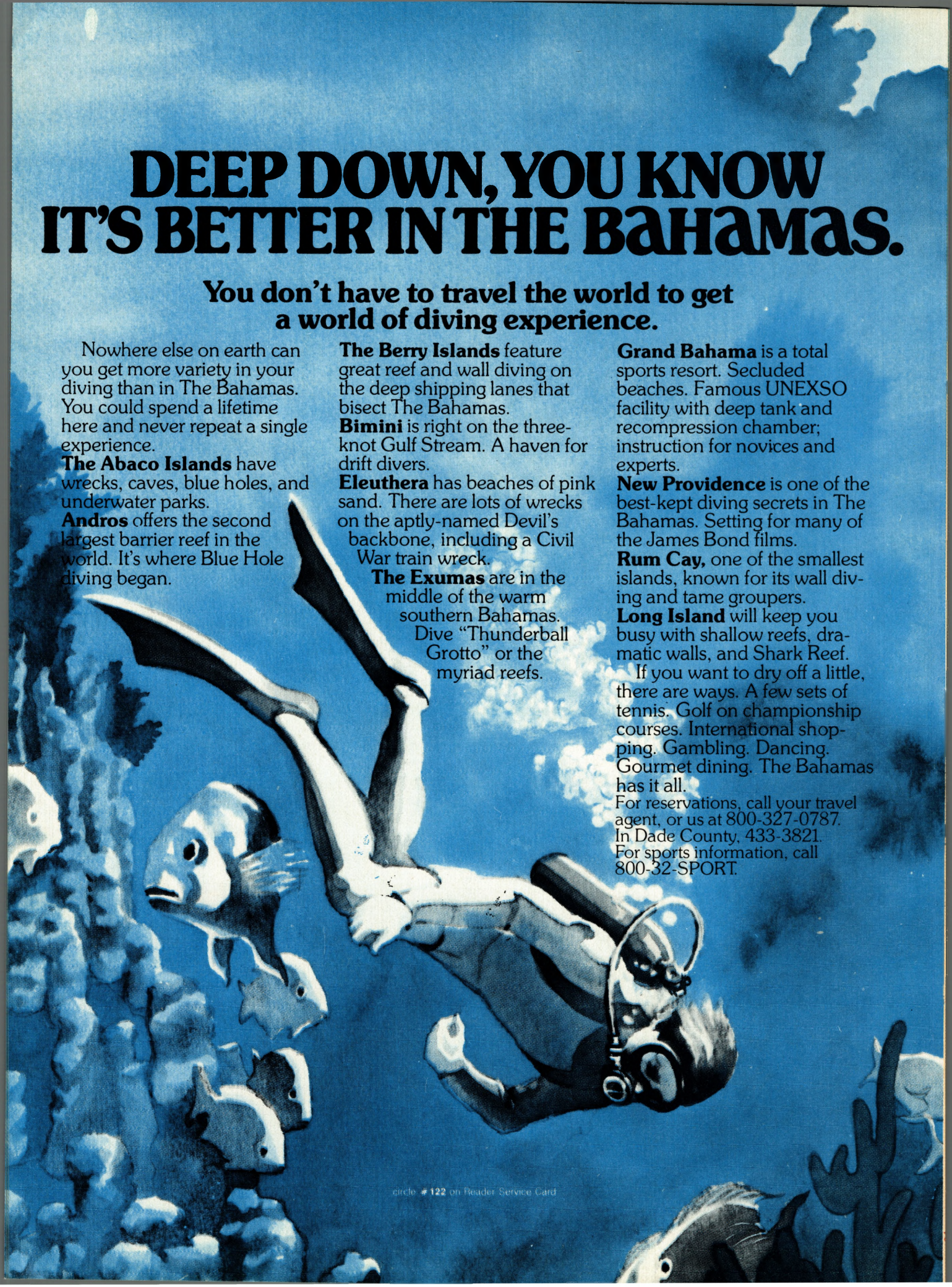


circle # 122 on Reader Service Card

I've never been there before, but I felt like I had come home. As you arrive at the resort, the first thing that strikes you is how lovely the place is. Huge palm trees dance gracefully on a sloping lawn and a wide, well-terraced walk leads you into the cool sanctions of this enchanted place. Straight ahead is the bar where Berkeley makes a bewitching drink called the Deep Diver. It's named for Neal because he holds the world's record for deep diving on compressed air — 437 feet; also, he holds the world's record for the longest distance traveled under water — 66 miles.

To the right of the lounge is the restaurant where you can get anything from grits to fresh lobster. The chef, James Sweeting, can prepare a feast that is downright memorable.

Andros has the world's second largest barrier reef; it's 125 miles long and offers an endless array of opportunity. The dive boat only has to travel a few minutes if you are going to dive the barrier reef. Or, you can go just a bit farther and dive the Tongue of the Ocean — a drop from 100 feet to 6,000 feet. Imagine the adrenaline rush as you hang suspended over a 6,000 foot drop-off that is as dark as midnight. That would give you something to reflect on for a very long time. It's that kind of challenge that you can find at Neal Watson's place, or you can just surround yourself in shallower, absolutely clear water that is teeming with underwater life. We saw several barracuda, some Bahamian Butter Hamlets, and an occasional Hogfish.

You can explore in caves and caverns or dive the inland Blue Holes, deep, dark holes of water.

The dive shop and dive boat are fully-equipped, well-maintained and run by some of the most pleasant and genuinely nice people in the industry: Don Smith, Sandra Lipscombe, Bill Keefe and Rick Parks. These dive masters go that extra mile to make certain you get the most out of your dive. We laughed a lot with them and had a marvelous time.

The boat goes out three times daily and holds about a dozen divers, each with two tanks. Evening and dawn dives can be arranged. Also, beach diving is possible for those wishing to do so.

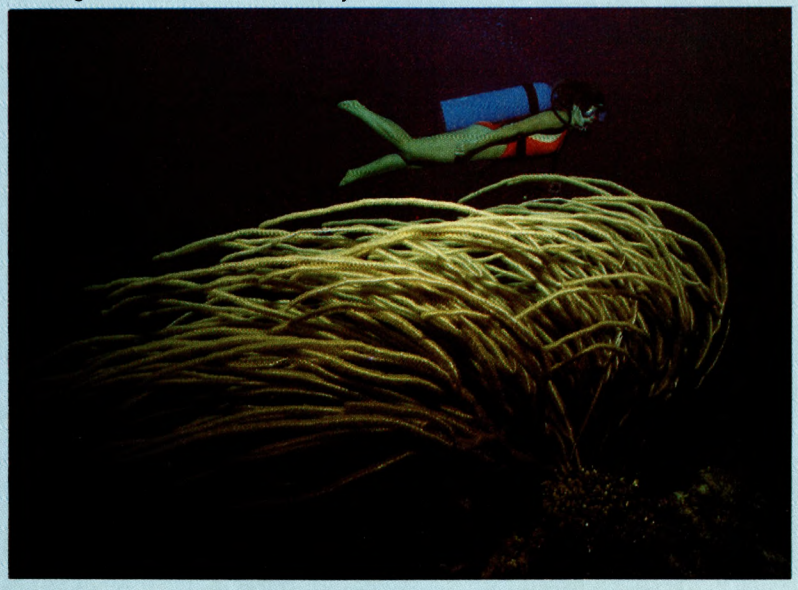
Years ago, Neal got fed up with the "cattle dive rut." He wanted to operate a first-class resort where the atmosphere is relaxed and where there are no surprises (like hidden expenses). When Neal quotes you a price, everything is included, no extra charges. The packages include round trip air fare via private charter from Ft. Lauderdale, ground transportation, room, meals, and gratuities.

Some other facts that might interest you are these: soon there will be two dive boats; there are 13 rooms and 2 villas that all open to the ocean; Andros is the bone fish capital of the world; there is plenty of fresh water; you can come any day and leave any day; and there is a gift shop.

Neal's brother, Carl Watson, manages the resort and his years of hotel experience are evident in the smooth way things happen there.

As I lay in a hammock, staring at the stars through the palm branches, I

Continued on page 47



FAR LEFT: *Wolf Kohler of Oceanoptics from Darmstadt, West Germany trying out new camera housing at the Deep Reef at UNEXSO.*

BOTTOM LEFT: *Diver's prepare to head to a dive site on one of UNEXSO's two boats.*

ABOVE: *Sandra Lipscomb enjoying the Elk Horn coral along the Andros barrier reef.*

BELOW: *A sea whip along the Andros barrier reef catches Sandra Lipscomb's attention.*

"Walker's Cay, a delightful place where you can hear locals call things "ting ums" ... where some of the tastiest bread in the world is servedpand the sunsets are to be savored, was hard to leave."

entertained us by singing old Eddie Arnold ballads in an amazingly talented voice. His serenading and the fact that Bahamians drive on the left-hand side of the road, all added to the excitement.

UNEXSO is a great place to go for diving instructions on any level. The courses range all the way from a 3 hour resort course through a Basic Scuba Certification to a complete instructor certification course offered annually. You can, also, get instruction on underwater photography, marine identification, decompression diving and sport diving. The staff is exceptionally professional. Everything is done efficiently and thoroughly.

The diving at UNEXSO offers a lot of variety. There seems to be something for everyone; in fact, check out this assortment:

Shallow Reef — colorful coral, lots of fish and the chances of finding lost treasures. Two million in silver and gold was recovered there in the 1960's, part of the booty from an old Spanish galleon.

Medium Reef — sea fans, sponge formations, courting angelfish in about 40 feet of water.

Deep Reef — canyons and caves at about 75 feet with coral grown to join tunnels.

The Ledge — the continental shelf drops off to 2000 feet at the 120 foot level of the Bahamas Bank. For a thrilling experience, leave the bank and float over this dark and vast chasm.

Theo's Wreck — a 230-foot steel freighter in 100-feet of water, propped precariously on the edge of the ledge. Divers can enter the ship through large holes in the hull. Also, offered are night dives, dawn dives and blue hole dives!

Speaking as a diver, I could have easily spent more time there happily exploring these dynamic sites, but I had to get back and write this article for the DEMA issue. Maybe this summer, Wallace will give me a week off, and I'll return to UNEXSO!

The head of UNEXSO is John Englander. He is, also, the president of the National Association of Underwater Instructors (NAUI), and the president of the Bahamas Diving Association. John is a soft-spoken, seemingly gentle person who certainly knows his business. UNEXSO is a wonderful experience for everyone. Just go and learn to snorkel or get really adventuresome and go down to 200 feet on a decompression dive!

The two dive boats go out three times a day. About a dozen divers with two tanks each could fit on the largest one; the smaller boat will hold about six divers with two tanks each.

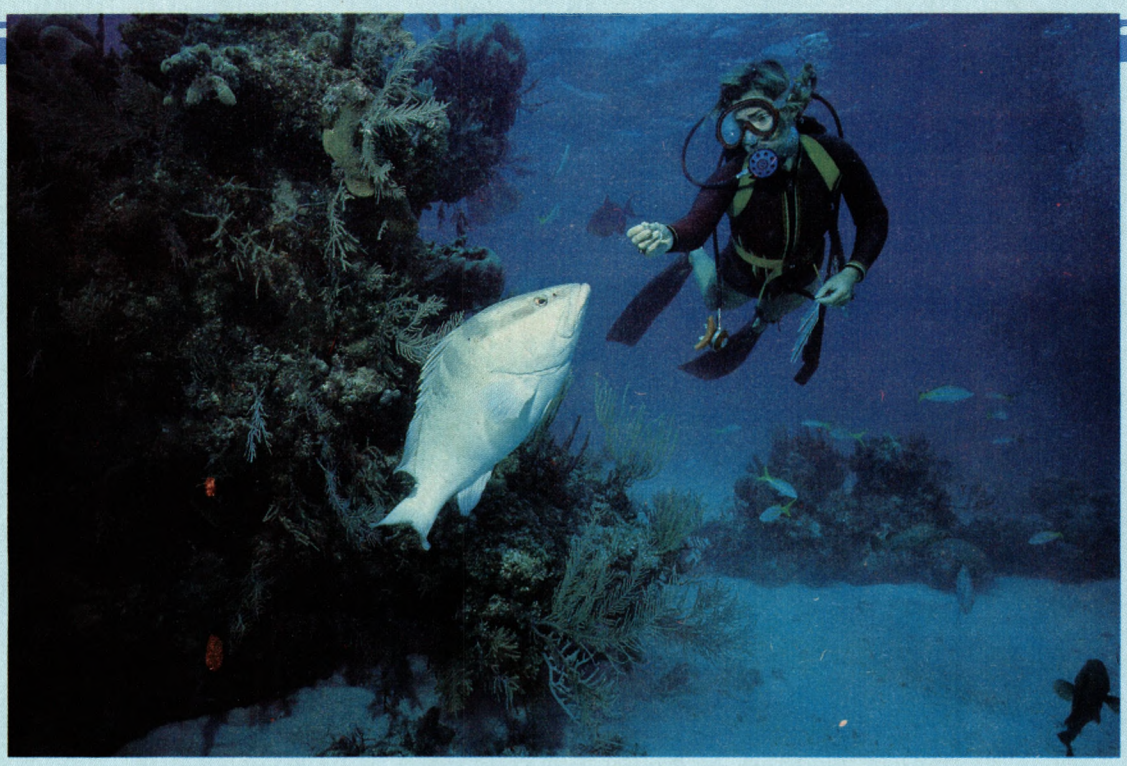
After you've worked up an appetite, go upstairs at UNEXSO and enjoy the Tide's Inn Restaurant. You can grill your own hamburger on a grill on the large patio that overlooks the harbor, or just settle back and be waited on. There is good food available and a specialty drink called the Shallow Water Blackout. I passed on that one, but I'm still wondering what I missed. If I get that week's vacation, I'll give you a full report!

Be sure and visit the diving museum and the gift shop, too. UNEXSO is fantastic, and if you should find yourself in the neighborhood, don't miss it. Maybe I'll see you there this summer.

If you plan to visit UNEXSO, getting there is no problem. Most major airlines that service the Miami/Ft. Lauderdale area, also, fly to Grand Bahama.

The time had come to leave, so we did. Next stop — Andros Island.

As we landed and taxied to the small customs building, a light tropical rain began falling. We placed a phone call, and soon, we were greeted by Neal Watson, the owner of Andros Undersea Adventures. We loaded our gear into his truck and headed for Nicholl's Town and our next dive site.



ABOVE: *Sue Graves feeding her pet grouper at White Hole Reef off Walker's Cay.*

BELOW: *A scene of tropical splendor from the deck of the Andros Beach Hotel and Villas.*

OPPOSITE: *The marina at Walker's Cay as the boats begin to head out for a day of billfishing.*

twice daily and more if there is an additional dive planned.

Also, on the north side, you can beach dive if you'd like. A new set of stairs is being constructed and will give the divers an even better opportunity for a smooth entry.

Once back on shore, there are lots of attractions on Walker's Cay. The food at the hotel is prepared by Isamae, a local chef trained in New York. Now remember, I said I wouldn't lie to you; Isamae's cooking is a culinary triumph!

After dinner, you can go to the hotel bar or down the island's single hill to the local tavern called the Lobster Trap. There is a gift shop to explore, and there is a charming chapel which is dedicated to Elon Edwards, a previous leaseholder of the island. The pulpit is a boat's bow! Also, there is billfishing — billfishing, billfishing, billfishing! — year-round, leading up to the world-famous competition from the end of February through Labor Day. The marina can dock 75 boats, and during the competition, I'm told it's standing room only. You can windsurf or water ski, too; the equipment is available for rental.

One of the most fascinating new developments on Walker's Cay is the mariculture experiments of Aqualife Bahamas. Improving fish breeding and raising is the objective of the biologists. Huge tanks hold thousands of colorful clownfish, a popular aquarium inhabitant. This installation is contained in a building half the size of a football field and is the largest marine tropical fish farm in existence. This place, alone, could probably hold your attention for hours; it's magnificent. Then, with a short boat ride over to Little Grand Cay, you can see the "Hideaway White House," a lovely home that Mr. Abplanalp had built for Richard Nixon, at his own expense. It is rarely used now, but is is kept ready for occupation at a moment's notice.

Walker's Cay, a delightful place where you can hear locals call things "ting ums" and where the runway has no lights, and some of the tastiest bread in the world is served, and the sunsets are to be savored, was hard to leave. But, we loaded the scuba gear in the airplane and flew south to Grand Bahama and another dive site, UNEXSO.

The Underwater Explorers Society is located in Freeport on Grand Bahama. On our way to the hotel, our cab driver

Bravo BAHAMAS!

Photography by Wallace Poole

Article by J'n Jernigan

Years ago, I learned the value of giving honest critiques, if you want others to trust your opinion, tell the truth. So, I'm sitting here trying to find the words to express to you how utterly spectacular my diving trip to the Bahamas was. If I use a lot of superlatives and you find yourself thinking, "Aw, it couldn't have been THAT good," just remember, I don't want to lose your confidence, and I'll always tell you like it really is.

Our first stop was Walker's Cay. As our Bonanza A36 circled over the island, I thought, "This place is so tiny that I should put on my diving gear just in case we miss the runway." A lush, 100-acre tropical island at the northern top of the Bahamas, Walker's Cay is absolute proof that nice things DO come in small packages.

We were greeted by Dr. Sue Graves, the Dive Master at Walker's Cay. Sue is pleasantness personified. As soon as we had cleared the simple customs procedures, Sue walked with us up the short path to the island's hotel. The path had a gentle upward slope and was lined with lush, tropical sights —even a macaw!

The hotel has 62 fully-airconditioned rooms, all with private bath and terrace. Located on one of the highest points of the island, the splendor that is Walker's Cay is easily visible. The hotel is neat and clean, but the best part is the friendliness of its employees.

After settling in, we met Sue at the bar. Val, the person behind the counter suggested something called a Walker's Cay Flip. It consisted of Bacardi dark rum, Grand Marnier, strega, orange juice, pineapple juice or lemon juice and grenadine. Val smiled innocently as she handed us these extremely tasty, yet potent concoctions. A few sips later and we were all settling in for the tropical delights that awaited us while trying to keep our eyes focused.

Anywhere you go, it's usually the people who make a place memorable, one way or another. On Walker's Cay, there seems to be no strangers; a warm, agreeable attitude is extended by one and all. As we strolled among the Bahamians, we were greeted with smiles and friendly words; a feeling of genuine harmony surrounded us. Some of the scuba people who made our visit extra special were Sue Graves, the Dive Master, overlord of the dive shop, scuba diving instructor, and explorer of new dive sites; Barry Albury, who was voted Dive Master of the Year — 1983 by "Scuba World;" and Percy Rolle who helps run the dive shop and steers the dive boat. On the administrative side, there was Cheryl Kirz, the sales director, and David O'Shaughnessy, the general manager of the hotel.

The person who owns the 99-year island lease is Mr. Bob Abplanalp. He is the inventor of the little valve that sits on the top of every spray can.

I bet by now you are saying, "That's all very nice, but what about the scuba diving?" How would you like to dive in warm, clear water, just minutes from the marina, that has glorious reefs filled with spectacular sponge and coral formations, and inhabited by an endless variety of marine life? We fed one of Sue's pet groupers who will dance the Samba with you for a few pieces of conch. The visibility often reaches 100 feet, and there are honeycombs of coral caverns for added excitement. We thoroughly enjoyed our dives at Walker's Cay and would highly recommend the experience to anyone.

The thousands of fish were dazzling; the four-foot sting ray that Sue came face to face with was a nice touch, and the four-foot baby nurse shark that Wallace stepped on was a real scream! But, I think we all agreed that exploring the caverns was the single best dive at Walker's Cay.

The one dive boat could easily accommodate a dozen divers with two tanks each. The boat goes out at least

The Bahama Islands

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Work on the *Association* site has been complicated not only by ripping tides that course through the area and rough seas that enable the men to work about 28 days out of the year, but the violence of Atlantic storms has tossed huge boulders on top of the wreckage. "Boulders have broken off weighing up to a hundred tons," Jim said.

"You can see the boulders fallen down onto cannons. We actually go mining; we take drills they use in tin mines," Jim explained, showing how they use special underwater compressor-operated drills to bore into the huge boulders. When the holes are drilled, divers attach special bolts to enable them to lift the debris out of the way with lifting bags inflated with compressed air underwater.

"Each diver spends an average of 40 minutes on the bottom. We do two drops a day. Think of coins being spread out on a huge football field then having concrete pitched on top and you can get some idea of what we're working in," Heslin added. "I've worked that site since 1968. We've found coins, but coins are boring," Jim smiled. "Some of the most interesting finds are the pewter spoons, especially the ones with initials on them. We found a lot of lead cooking utensils. They got lead poisoning in those days, but didn't know it. We've encountered a couple of gold rings, some of them have had inscriptions on them. We have come up with some navigational dividers as well," Jim continued.

The divers even recovered a portion of a Bible. Some of the printing was still legible after hundreds of years immersion in the sea. "We found seven or eight skeletons. The average age was 22, the life span in those days, well most of them were dead by the time they were thirty." Jim Heslin said, describing how he and Terry Hiron became salvors in possession, taking over the wreck site after everybody else gave up and left it.

Danny Owen, a plasterer from Worcestershire, England, on holiday in the Scillys, diving with Jim and Terry's Scillonian Diving Services, went down the anchor line on the site of the wreckage of the *Eagle*. A yard from where the dive boat was anchored, Danny lifted up a piece of broken glass. In a crevice in the sand, he found a small gold ring studded with emeralds. It was easy to see Danny Owen's pride, finding something so small and delicate that survived not only the violence of the shipwrecking, but almost three centuries underwater.

The heritage of the Scillys has been nowhere more preserved than through the pictorial chronicles of the Gibson family who for four generations have gone down to the sea to record events that have shaped the islands.

At 54, Frank Gibson is the fourth generation of photographers in his family. Frank continues the tradition, taking pictures of ships wrecking on the shores and out islands.

Frank Gibson's great-grandfather and grandfather used glass plates that they had to coat them themselves with silver. "There was only contact printing in those days," Frank said. "I've still got the original glass plates. The collection has remained intact over four generations," he said.

With frequent British Airways helicopter service from Penzance, the Scilly Islands have been opened to day trippers and tourism. Coves and beaches beckon sunbathers where winter gales whipped by the sea's fury once cast sailors bodies up. Sunbathers now enjoy tranquil summer beaches where once goods and lagan from cargo holds washed ashore.

With frequent daily British Airways flights to and through London, these southern isles have become accessible and affordable. The Scilly Isles are places of friendship. They boast a small town atmosphere that has been lost in many places tourists visit. It is a place of sea heritage where early islanders prayed, "Dear Lord, not that shipwrecks should happen, but if they should happen, send them to the Isles of Scilly for the benefit of the poor inhabitants."

SERVICE INFORMATION

Getting to the Scilly Isles:

British airways has the most frequent daily direct service to London via New York, Philadelphia and Toronto. British Airways helicopter service operates frequently from Penzance to St. Mary's, Scilly. Information can be obtained from British Airways in:

NEW YORK

British Airways
245 Park Ave.
New York, NY 10167
Telephone (toll free)
800-522-7110

TORONTO

British Airways Canada
Suite 2500
1 Dundas St. West
Toronto, Ont. M5G 2B2
Telephone: (416) 595-2600

For Dive Trip Information:

Mason Logie
DIVE AWAY
P.O. Box 6261
Plainfield, NJ 07062 USA
Telephone: (201) 668-1122

In St. Mary's, Scilly:

Jim Heslin & Terry Hiron
Isles of Scilly Underwater Centre
Warleggan, St. Mary's, Isles of Scilly
Telephone: (0720) 22563
The Centre operates a guest house at Warleggan and full accommodations can be arranged including meals.

Train and ferry connections to Scilly operate regularly. For train information and general brochures, write directly to the Isles of Scilly Underwater Centre. High speed diesel trains operate from London's Paddington Station to Penzance. The Penzance rail terminal is only 1500 yards from the British Airways helicopter facility and a bus is available. London arriving passengers may take the Air-Link bus from Heathrow to Redding station saving on London's congestion to catch the train for Penzance. No Sunday helicopter or ferry service is generally available so it pays to check with the Underwater Centre in advance.

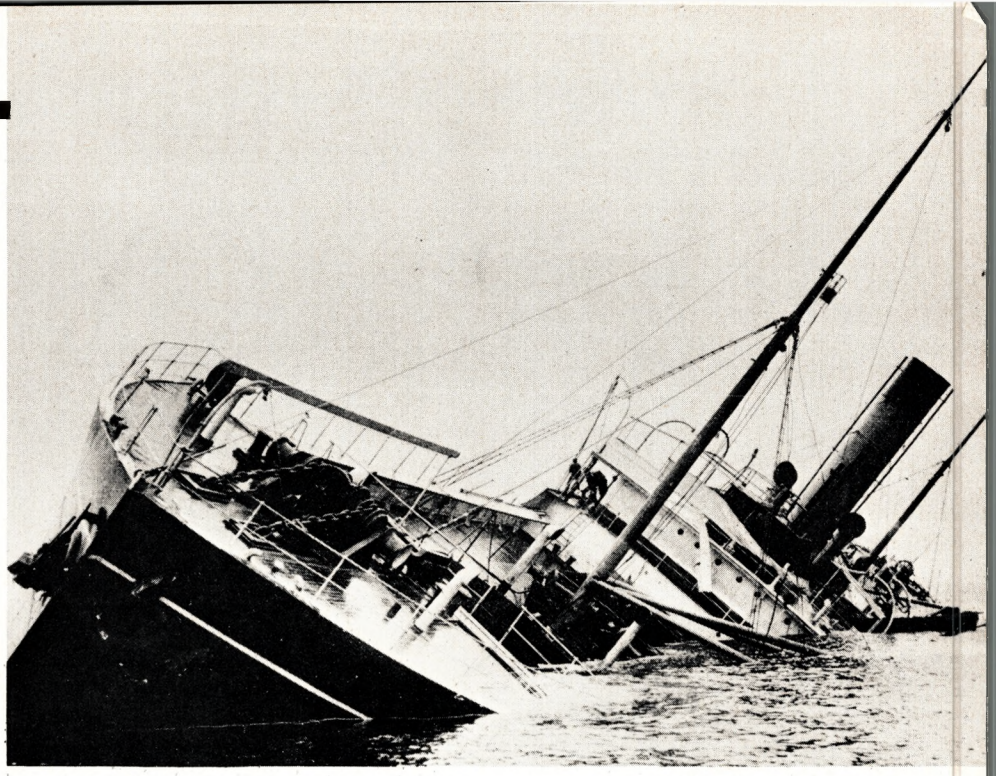
owned a small garage in London and Terry Hiron was a chartered surveyor. Both men stayed on after their week's vacation, chucking their jobs and joining a small diving company that had set about working *H.M.S. Association,* a 90-gun ship of the line that sank on October 22, 1707, part of a fleet of 21 ships. It was the greatest maritime disaster of all time. Some accounts put the number of casualties at almost 2000. Along with the flagship *Association* , the *Eagle, Romney,* and *Firebrand* were sunk, the *Phoenix* and *St. George* holed by rocks off the Gilstone and Bishop's rocks.

"For weeks, I didn't find anything. Then I found a sixpence. Since that time, I've found lumps and lumps of coins, but it was never as exciting as the first coin," Jim Heslin recounted.

There were many lean years for the two treasure divers. They were finding coins, but weren't getting much return for them. The government was holding all finds for a year and a day as was customary under British salvage law, then taking a share. A beautiful bronze cannon was recovered from the *Association* site. Terry Hiron described it as probably the single most valuable item recovered, worth upwards of 20,000 English pounds.

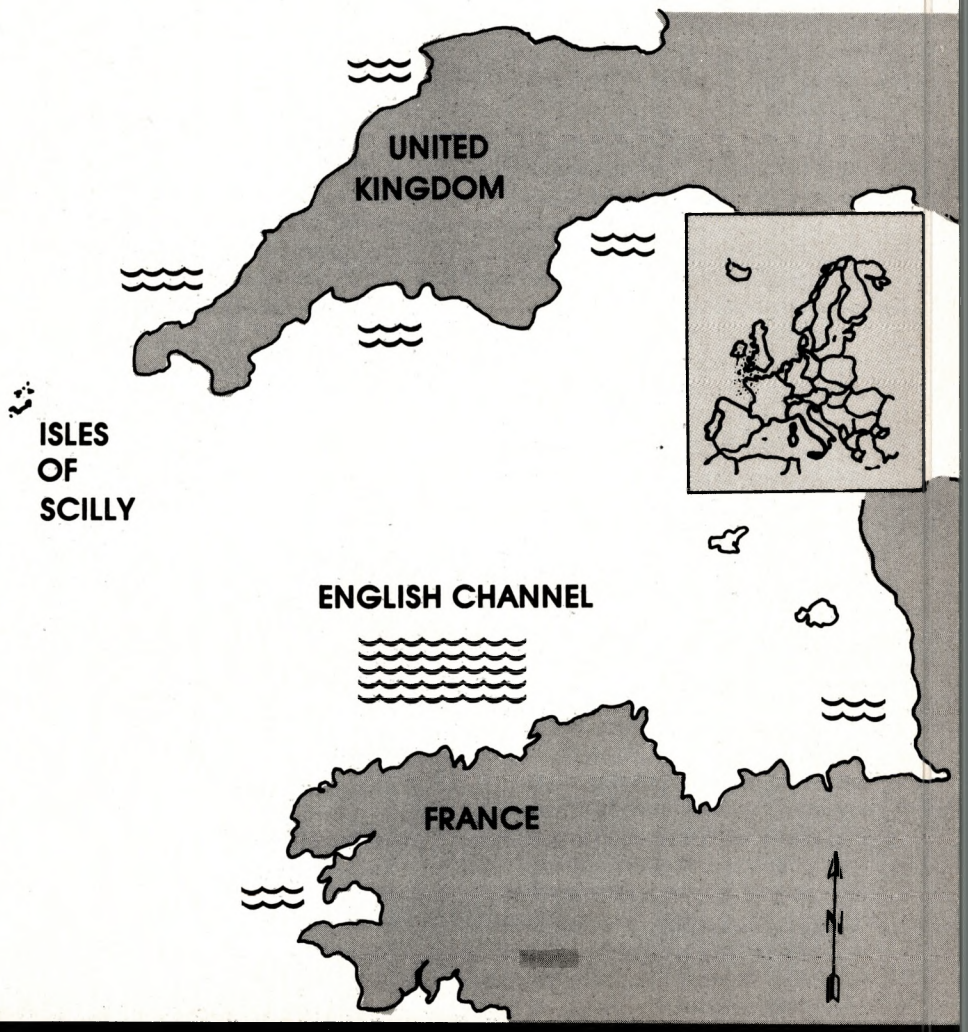
"There was a lot of plunder on the *Association.* They had been pillaging off Spain and were paying off for the winter. In those days, it was sort of a gentleman's agreement that there would be no waring in the winter. It struck the Gilstone Ledge. Another hundred yards and they would have missed it," Jim Heslin said, describing the tragedy.

"For weeks, I didn't find anything. Then I found a sixpence. Since that time, I've found lumps and lumps, but it was never as exciting as the first coin."



Above: *Wreck of the KING CADWALLON, courtesy of Frank Gibson from The Gibson Collection, St. Mary's, Scilly*

Left : *Emerald ring as it was brought up from the wreck of the H.M.S. EAGLE by diver Danny Owen.*



What a Wreck!

Article by John Fine

The ISLES of SCILLY

Just beyond Land's End, where British ships once set off to discover the New World, are the Isles of Scilly, renowned for wrecks and wrecking. Earning a livelihood from wrecked ships was as much a tradition to the islands as their inhabitants' reputation for solid seamanship and courage in the face of adversity at sea.

In the early days before motor launches, Scillonians would put out in gigs, sometimes carrying the longboats overland to be able to launch them from leeward in sheltered coves. Islanders would row out in gales to rescue sailors shipwrecked by the fierce ocean storms that lash the coast in winter. Mariners who have sailed around the horn, who have seen the fury of the Atlantic off Scilly's coast, claim there are no worse seas than in winter off Scilly. To the unfortunate sons of adversity and calamity, thrown overboard in granite pinnacles tearing the insides out of their vessel, the claim has surely proved true. For ships have come up on Scilly's rocks since humankind has put to sea.

Vestiges of primitive peoples who lived on these islands have been dated to around 1500 B.C. Clear evidence of Roman occupation was found on the islands, including coins and bronze trinkets uncovered in quantity on the uninhabited Easter Island of Nornour.

Roman coins found in archaeological land digs on Nornour date from Emperor Vespasian's time around 69-79 A.D. to Gratian, dating between 367 and 383 A.D. Brooches from the Roman period were, also, found which have been dated from the first to early third centuries.

"Ships get "munged" in the rocks," Terry Roe said, using his hands to show how vestiges of a shipwreck become twisted and crushed by the perpetual force of ocean storms and harsh weather. Over the years, little remains of the shipwrecks save some metal plates of iron steamers and sailing barques, now overgrown with forests of kelp and marine life so thick that it becomes difficult to recognize the remains bearing any relationship at all to once magnificent sailing vessels.

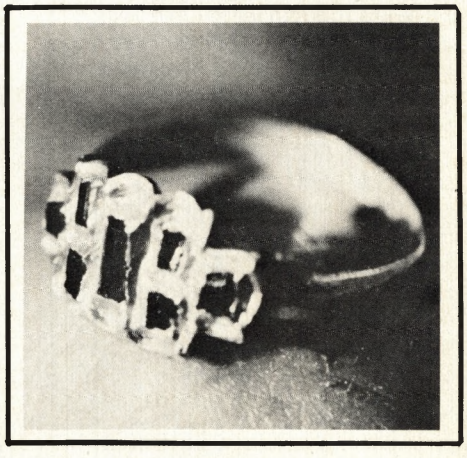
One such wreck is the seven-masted schooner *Thomas W. Lawson.* At the time of ship's sinking on December 14, 1907, the *Lawson* was the largest sailing vessel ever built. The 395-foot *Lawson* carried 40,612 square feet of sail and had a gross weight of 5,218 tons. Donkey engines at each mast took over the work of raising and lowering the sails. This enabled the owners to cut down on her crew to merely 18 men. Built in 1902 in Quincy, Massachussetts, the *T. W. Lawson* was designed to compete with steam vessels, proving the economy and reliability of sail in an era where steam was encroaching heavily on what had been the exclusive province of windships.

On November 20, 1907, the *Lawson* set out from Philadelphia bound for London with a cargo of 2¼ million gallons of crude oil. When the *Lawson* reached the Scilly Isles on December 13, 1907, her sails were in tatters after a stormy Atlantic crossing. Rough water greeted the largest windship ever built and her captain anchored the vessel to ride out the violence of a Scilly norwester. The *Lawson* became "munged" in the rocks where her rusting plates have merged with marine life, covered over with kelp and anemones, a memorial to the last battle of sail against steam.

Terry Roe described some of his work salvaging the wreck of the *Hollandia,* a Dutch East India Company ship that foundered in more than a hundred feet of water, also, off Annet Island on July 13, 1743. The *Hollandia* was on its maiden voyage outward bound from Texel to Batavia which is now call Java. Only four people survived of a complement of 276. Killed in the wrecking were the wife and children of the Governor of the East Indes. The *Hollandia* was carrying 129,000 guilders for the Indes trade.

"The rock she hit is called the Gunner's Rock. She sailed about a mile-and-a-half before she settled," Terry Roe related. "They heard cannon fire, but the seas were so bad, they just couldn't help them, unfortunately," Terry continued, opening a chest of coins and artifacts recovered from the *Hollandia.* "This is from a musket. It's marked VOC, the initials of the Dutch East India Company. These pillar dollars have come up from her," Terry said, displaying some beautiful specimens of the rare coins recovered from the deep.

Two friends who became partners in one of the world's greatest treasure hunts, remain as enthusiastic about diving as they were in 1968 when they came to Scilly on a diving holiday. Jim Hislin



"Val Ranetkins ... talks energetically about his new housing and is quick to point out the Aquatica 3 as the 'ultimate' in professional underwater camera housing."

when combining air/water subject matter.

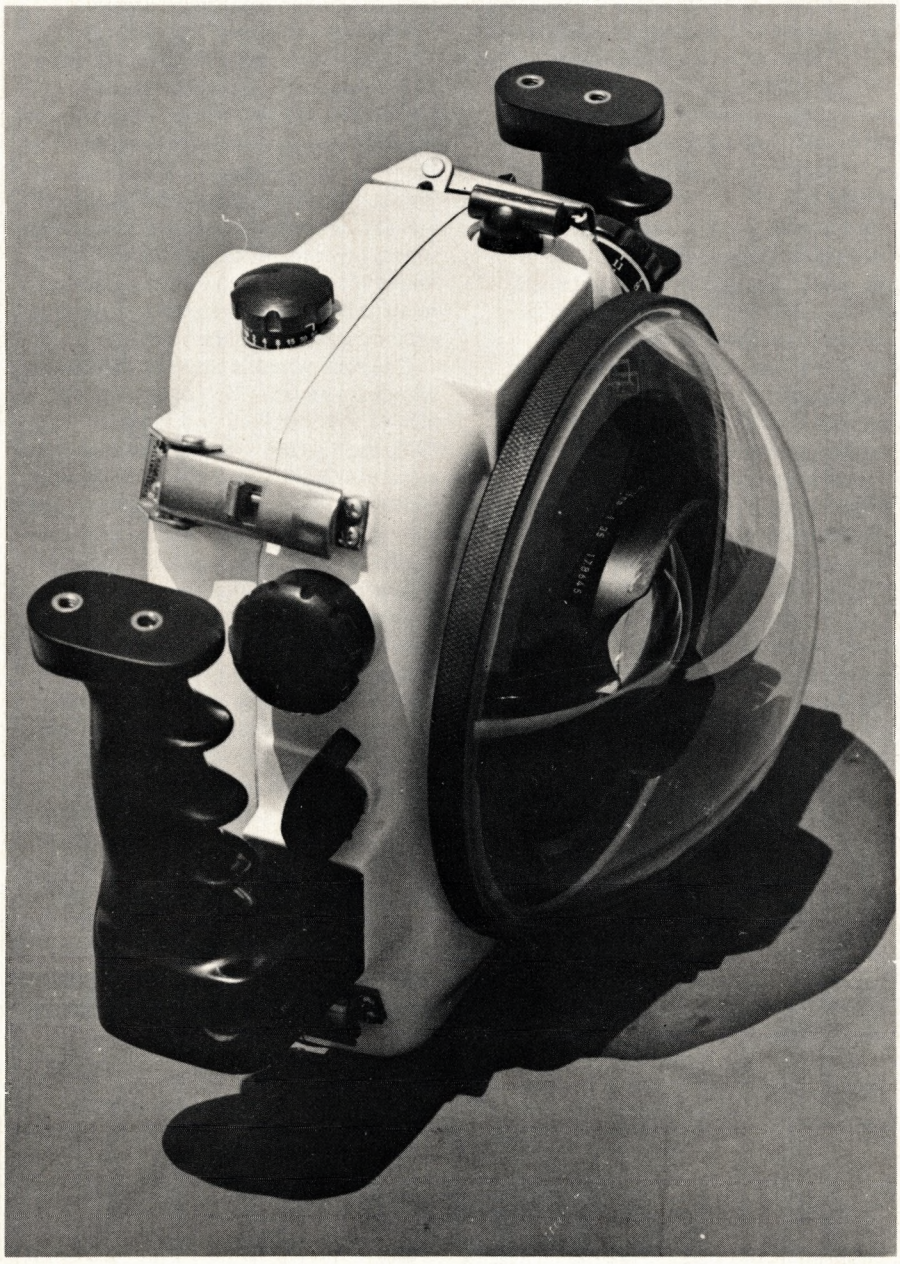
TESTING THE UNIT

A look inside the housing reveals still more. Installing the camera takes only a few seconds, about as long as it takes to mount a camera to a tripod. Each unit is equipped with an integral AUDIO/LED moisture warning system. Should the housing leak for any reason, a small buzzer alarm, and a red LED (light emitting diode) appears in the viewfinder allowing the photographer time to return to the surface preventing water damage to the camera.

A simple O-ring holds the gears securely to the lens, simplifying the attaching and removing of the gears when changing lenses. Completely gear-driven, the controls fall into place at your fingertips, all the gears operate very smoothly, like the fine-tuning knob on an expensive stereo. Focus, aperture and shutter speed skirts are provided on these controls, which allow for quick external indication of settings used. These skirts rotate on a special friction ring and may be calibrated even after the housing has been sealed and taken into the water.

The AQUATICA 3 comes standard with the E-O (Electro-Oceanic) type strobe connector or can be ordered with the Ikelite ICS connector. The choice of several strobe arm mounting brackets is available offering the user the widest choice of strobe connector configurations.

The new AQUATICA 3 housing combines functional design with modern technology, and maintains the reputation of being the finest and most versatile housing available for 35mm underwater photography. For more information, write AQUA VISION PRODUCTS, Inc., P.O. Box 1097, Postal Station Pointe-Claire, Quebec, Canada H9S 4H9



Above: *The Aquatica 3 underwater camera housing by Aqua Vision Systems, Inc.*

AQUATICA 3

UNDERWATER CAMERA HOUSING

by Greg Johnston

First impressions, they say, are long lasting ones. My introduction to the Aquatica line of camera housings was last year at the DEMA trade show in New Orleans. There, I was able to fondle the housing, and talk to designer and developer, Val Ranetkins. Ranetkins, an industrial engineer, talks energetically about his new housing, and is quick to point out the AQUATICA 3 as the "ultimate" in professional underwater camera housings!

Webster's describes "ultimate" as fundamental, absolute, supreme, maximum; incapable of further analysis or division. A test dive with the new AQUATICA 3 housing is every bit of this and more! Handsomely designed and ruggedly built from precision cast aluminum, the versatility of its features, and the available options for this housing are most impressive.

The AQUATICA 3 is the latest model to be manufactured in Canada by Aqua Vision Systems and is the result of many years of testing and research, which has seen the development of the earlier Aquatica NR, CR, and Aquatica II.

The AQUATICA 3 has been designed to house the Nikon F-3 with MD-4 motor drive and DA-2 action finder, or the New Canon F-1 with motor drive, small ni-cad pack, and speedfinder. However, the housing can be custom ordered to fit most camera/motor combinations, and for non-motor-driven cameras a small spacer block can be added to hold the camera in precise alignment with the concentric dome port. An integral ballast chamber, located at the base of the housing, can be filled with lead shot, thus balancing the housing, and allowing desired buoyancy.

The concept behind the newly designed AQUATICA 3 housing is simple — allow the photographer full range of camera control operation, including full motor drive capabilities on either single frame shooting or continuous rapid shooting. Allow the photographer full-viewing through the sport finder (slightly recessed to avoid scratches) and use the cameras through-the-lens metering system, eliminating the need for a separate underwater meter. One of the most unique features of the AQUATICA housings is the interchangeability of the focus and aperture gears; they may be switched according to the photographers left/right preference.

CONSTRUCTION

Unlike its previous family of modified epoxy resin housings, the new AQUATICA 3 is sculptured from precision-cast marine grade aluminum alloy, fully anodized black, externally emulsion coated, and finished in pearl grey epoxy. The control knobs are made of polyurethane, while the control shafts are made from corrosion-resistant stainless steel. The physical size and appearance remain the same; changing the main body shell to aluminum has increased production control and quality assurance. All sealing surfaces are machined to military specifications, and each housing is tested to a working depth of over 350 feet.

One of the unique aspects of the AQUATICA 3 is its three-part design. The entire camera is rigidly mounted in the center portion of the housing while both the back and front ports are easily removed. Film loading is a snap! Releasing four stainless steel cam-lock latches allows quick and easy access to the back of the camera. While the camera remains fixed in the housing, merely swing the back open as you ordinarily would to change film. The front ports are, also, easily field interchangeable and allow fast and easy access to lens changing. Two deep-seated o-rings provide a perfectly watertight seal for the front and rear components.

DOME PORTS/FLAT PORTS

The AQUATICA 3 housing comes standard with a high optical-grade 8-inch dome port. With each housing, three focus and aperture gears are included, which host a wide variety of lenses. Flat ports, most effectively used for macro photography, and a machined aluminum extension tube that accepts both dome and flat ports are, also, available. With the accessory extension ring and flat ports added to your system, the housing will now accommodate lenses ranging from 8mm fisheye to 200mm macro telephoto.

Aqua Vision Systems designs and manufactures their own line of custom dome ports, giving this firm extensive control in research of various dome curvature radii configurations. Custom 12-inch, 18-inch, and 24-inch (nominal diameter) dome ports are available. These dome ports were originally designed for National Geographic photographers for such specialized photography as above and below shots. The large dome minimizes the need for special dioptors and enhances resolution

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What's New

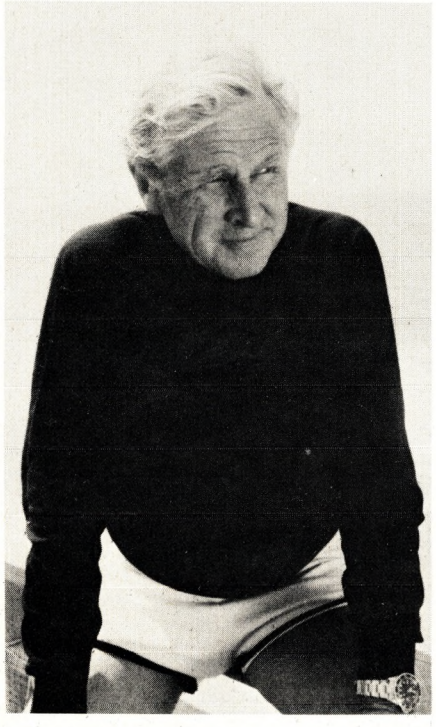
Sunken Fleet Mapped

A unique map has been recently revised and republished marking the locations of Japanese ships sunk in the Pacific's Truk Lagoon during American Carrier attacks of February, 1944. More than fifty ships lie beneath the lagoon waters as if in an underwater time capsule, a virtual "ghost fleet" resting on the lagoon floor many with their cargo of zero fighters, tanks, naval and ordnance and the grisly remains of the crew and their personal effects. The ships are located on the map along with their names, water depth and a brief description of each.

The "Map of the Ghost Fleet of the Truk Lagoon" is available for $2.50 from: Office of Tourism, Dept. of R & D, P.O. Box 280, Moen, Truk Eastern Caroline Islands 96942.

Frehsee & Holland to Fisheye In '85

Fisheye Photographic of Grand Cayman, who earlier this year was named the first NAUI sanctioned Photo College in the world, proudly announces two advanced photo seminars to be held in Grand Cayman in 1985. Dubbed "Master Classes" by Fisheye owner Martin Sutton, they are designed with the advanced amateur in mind. Each will take the form of five day seminars including lecture sessions, in-water photo coaching sessions, and critique periods.



Lloyd Bridges, Chairman of Nat'l YMCA Underwater Activities

Rick Frehsee, one of the world's best known underwater photojournalists, will teach one course in June covering wide angle photographic techniques. **Robert Holland,** a top underwater photojournalist specializing in the marine sciences, will also teach one course in June, covering animal behavior and wildlife photographic techniques

Tuition for both courses is $995 including accommodations, diving, photo equipment, film and processing. For full details contact Martin J. Sutton, Fisheye Photographic Services, P.O. Box 2123, Grand Cayman, B.W.I. (809) 947-4209.

YMCA Center Moves

The National YMCA Center for Underwater Activities has moved to the Atlanta, Georgia area. The new address is: National YMCA Center for Underwater Activities, Atlanta Office-Oakbrook Square, 6083-A Oakbrook Parkway, Norcross, GA 30092. Phone (404) 662-5172.

Destination Hawaii

Destination Hawaii, an association of 26 Dive/Snorkel businesses across the state and 2 equipment manufacturer/distributors, is promoting Hawaii as a major diving and snorkeling destination.

The Hawaii Dive/Snorkel businesses have set competition aside so as to coordinate their efforts toward promoting the excellent dive opportunities throughout the state.

The membership plans to gain additional support from non-member sources who directly benefit from the association's efforts, such as the airline, hotel and rental car industries. The idea of the "dive package," including air, hotel, car and diving, is receiving increasing support from Hawaii operators statewide.

In addition to its promotional purpose, Destination Hawaii is becoming a means by which to maintain the quality of service and safe diving practices throughout the state of Hawaii. To be a member of Destination Hawaii might be comparable to receiving the "Good Housekeeping Seal of Approval!"

For further information contact Destination Hawaii, P.O. Box 90295, Honolulu, HI 96835.

Helix Trip '85

The 1985 Helix Photo/Dive trip to the Philippines will be from February 23rd through March 12th. Contact Dan Kasberger, 325 W. Huron St., Chicago, IL 60610. (312) 944-4405.

OOPS!!!!

SCUBA TIMES slipped up! In our last issue (Volume 5, Number 4) we listed all map products of LEH Cartography, Inc. as retailing for a "mere $5.25". What we should have said was that the poster maps and map slates of the Yucatan Channel, Isla de Cozumel and Grand Cayman all retail for $8.95.

LEH's latest design as shown above, "CHART YOUR OWN COURSE" (Base map in navy ink on a navy background, 20"' square) which comes complete with a colored pen for you to mark your own course across the Caribbean retails for $5.95.

Lola Huitt, the creator of the map designs for LEH Cartography, is now researching for her newest creations - Underwater maps of the Hawaiian Islands dive and snorkel locations. LEH has joined forces with Divesports Publishing, publisher of the newly revised *Diver's Guide to Underwater America,* to produce a new book *Underwater Hawaii.*

This guide, featuring the underwater structure maps, will not only direct you to the best of Hawaiian diving, but will, also, inform you about the unique geologic history that makes Hawaiian diving so different from the Caribbean. Since the Hawaiian Islands are actually the remains of immense volcanoes that erupted from the abyss, they offer great opportunities to see open ocean rovers such as eagle rays, sea turtles, or even whale sharks. And because of the relatively recent (in geologic time) volcanic activity, divers have the opportunity to explore such fascinating lava structures as hollow lava tubes, or dormant submerged volcanic craters, now home to hordes of tropicals.

For more information about LEH Cartography, Inc., the DIVER'S GUIDE telephone: 512 / 442-5421.

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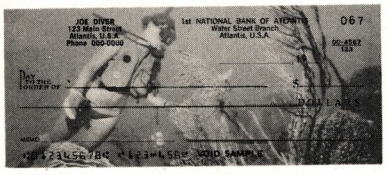

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Schools of Thought

Article by Tim Cahill

If It's Ugly, Don't Touch It!

Let us now consider the larger lessons of sport diving as they relate to the Big Picture, by which I mean the nature of the human condition, smart thinking in general, and civilization as we know it. Today's topic: the role of instinct, as opposed to knowledge, in the recognition of those aquatic animals that may limit our enjoyment of the sport by turning otherwise avid divers into what are commonly termed "dead guys."

One case in point: a scuba diving instructor of my acquaintance, in an effort to eliminate any unpleasant interface between her students and certain poisonous underwater creatures, sends newly certified divers into the sea with this stern admonition: "if it's ugly, don't touch it."

Implicit in the eminently sensible warning is a corollary idea: trust your instincts. First impressions count. Don't intellectualize bogies and ogres. On dry land, for instance, one might struggle to overcome an initial antipathy and actually shake hands with an attorney, however slimy he or she may be. In the sea, this sort of touching tolerance to that which the average man finds unutterably foul can be deadly.

Your basic stone fish, for instance, is an ugly fellow, lumpy, misshapen, mineral gray in color, warty, somnolent and poisonous enough to kill in some cases. Unlike certain brands of toilet tissue, this nasty little sack of poison elicits an instinctive negative tactile impression: don't squeeze the stone fish.

Sea snakes exhibit a similar lack of perceived cuddlibility. Topside, some of us may handle snakes for one reason or another. We know — hoorah for high school biology — that not all snakes are poisonous. Even the venomous varieties can be flummoxed by certain hardly clever techniques, and I myself once helped a scientific team collect a few dozen prairie rattlers in Montana, where I live.

So, why is it that I can handle rattlers, while sea snakes of any variety fill me with dread? Once, in the pearly waters of Manila Bay, under typhoon gray skies, I found myself sailing through a great writhing mass of snakes: hundreds of thousands of these olive gray serpents, long as baseball bats, thin as pool cues.

They covered an acre or more of the surface so that the water seemed alive, tormented, and the sunning snakes, like worms in a bait can, twined and intertwined in a slow, morally indefensible erotic ballet. The ketch was running before the wind at a good six knots and I had disagreeable visions of the keel slicing through scores of sea snakes. I imagined snakes coiling about the rudder, sentient snakes inching upward, slithering up onto the deck in a fury of revenge. I saw it all in my mind's eye: the deck, this small wooden world, only 45 feet long completely carpeted in a horror of serpents so that there was no place to step that was not a living nightmare. I could see myself climbing the mizzenmast and looking out onto a sea of snakes from horizon to horizon. and below, coiling up the halyard, snakes with glowing coals for eyes, serpents on the rise, climbing slowly toward the kill, in no hurry now that the world belonged to them.

"I found myself sailing through a great writhing mass of snakes ... they covered an acre or more of the surface so that the water seemed alive ..."

It was a kind of grotesque waking dream that I experienced there in that sea of snakes, one that I can still recall with a blunt force of intensity that sets bile rising in my throat and calls forth the near forgotten words of a person named Moon Zappa: "gag me with a spoo-oon."

Why the revulsion? A theologian might argue that the snake is an archetype, derived from the Book of Genesis, and, as such, represents the devil, or evil, and therefore the revulsion I feel is purely a moral one: an indication that I have placed myself, willy-nilly, on the side of the angels and am, basically, a good boy. An anthropologist would reply that the ancient Sumerians, also, believed that the first man and woman were driven from a mythical garden — in the manner of Adam and Eve — but that the tempter, in this case, was a fox. The anthropologist wants to know why we don't instinctively find foxes revolting. To which the Jungian psychologist replies: "on accountta we ain't Sumerians, dirt for brains."

Your Freudian psychologist sees the snake as a fetish that conjures up frightening visions of castration arising out of a repressed Oedipal love affair with a parent of the opposite sex.

A diver, on the other hand, doesn't really have to think about all this. All sea snakes, without exception, are venomous to one degree or another: a bite can cause giddiness, weakness, drooping of the eyelids, lockjaw, and, in some species, respiratory or kidney failure resulting in death. Those of us who don't know this intellectually — one demerit for high school biology — understand it at some deeper level. Instinct arises out of the genes, and raises gooseflesh along the back and arms, so that with absolutely no biological, anthropological, theological, psychological training, we know that serpents of the sea are poisonous. Smart guys can argue through volumes of learned arguments about this, but divers know —in some area of the soul, located beyond knowledge — that certain creatures make our skin crawl for a reason. If you don't know what it is, and it's ugly, don't touch it.

equipment, and there is a much larger selection of pre-recorded material available in the VHS format. VHS (Home Video System) differs from BETA in its recording path and head transport speed with the two formats being incompatible (Example: A Betamax recorder cannot play a VHS tape). This is a deliberate oversimplification to avoid confusion in this introductory article.

If you presently own no videocassette recorder and are exploring the possibilities of underwater video, it is a safe suggestion that you look into the purchase of a portable VHS videocassette recorder with and accompanying tuner/timer so you start with a unit that can function as your main home deck as well as your portable recorder for taping with a camera. The added advantages are that most portable machines have superior taping capabilities, special functions, are built for fairly rugged use, and are designed to use the standard videocassette size — T120 2 hr tape. If you already own a VCR, you might be interested in one of the new "camcorders" (one-piece camera and recorder combinations), although this author would be reluctant to recommend one due to its tape length of 20 minutes vs. 2 hours of tape. Further, the new 8mm video format would receive no recommendation due to its limited production and poor market reception.

Video camera considerations are most importantly size (the compact models by JVC/Panasonic are easily housed and accessed) and image/light characteristics, as well as viewfinder design. Once the camera and recorder choices have been made, the sportdiver is now ready to consider housings. Several companies that make underwater housings for still/film cameras have developed video housings and some very specialized companies have opened shop with underwater video being their only business. Housings are available in aluminum, PVC plastic, plexiglass, and flexible plastic with features that can be either very simple or complex, depending on options chosen by the diving videographer.

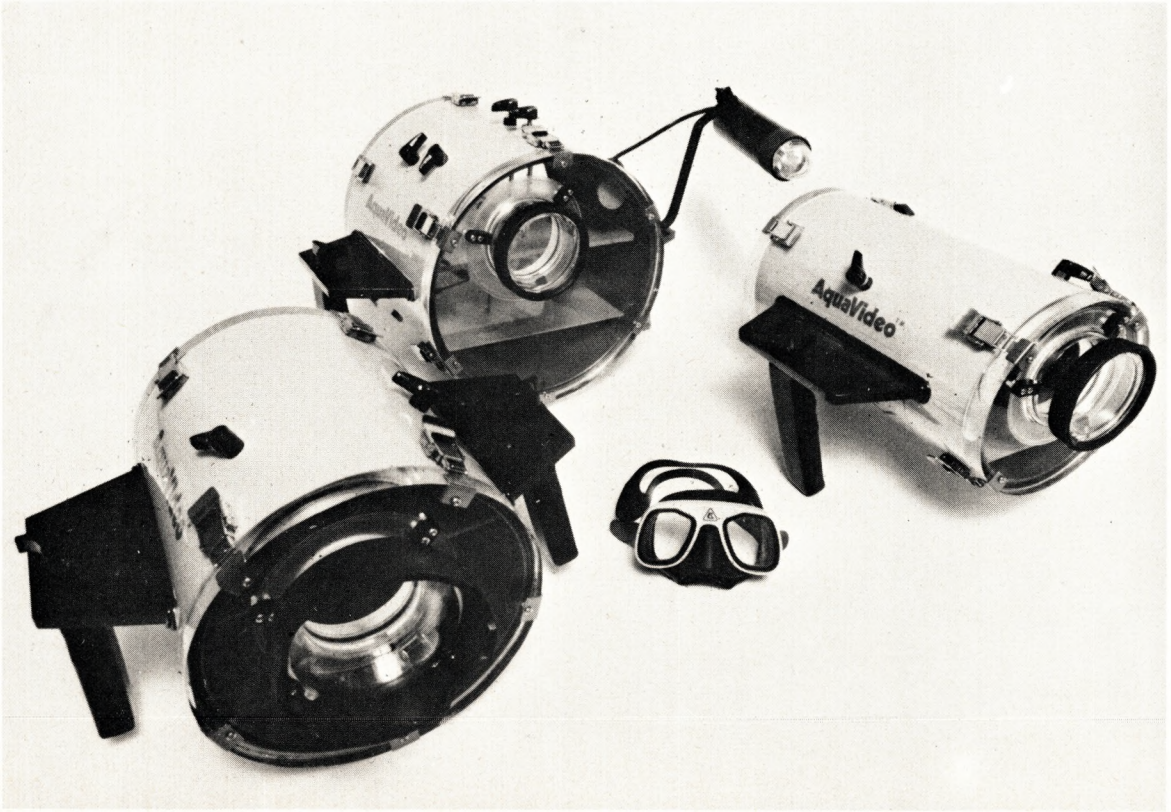
Special Author's Note: Accumulating state of the art technical information on video equipment, housings and purchase recommendations can be time consuming and frustrating. I recommend a phone call to AQUAVIDEO, Inc., in Miami, Florida, (305) 558-4336/55VIDEO as money well spent. The owner, Mike Hastings, is a very knowledgeable and personable young man who will spend the time assisting you in video choices.

VIDEO TECHNIQUES

With equipment in hand, and your airplane ticket to a diving destination in your pocket, you are ready to set about the production of an underwater masterpiece. Your videotaping strategy will be more closely related to and revolve around film techniques as opposed to still photography. An exciting part of the underwater video experience will be learning filmmaking techniques such as panning, zooming, dollying, (underwater swim through), entrance/exit coordination, storyboard planning and sequence construction. The challenge continues with the considerations of post-production such as editing, titling, special effects, soundtracking, and dubbing.

Once completed, your videotape will almost certainly excite and retain the attention of your audience, no matter whether they are dive buddies or non-diving friends. No more yawns and bloodshot eyes when the slide show ends. This article has but briefly touched on and introduced you to several areas of the total vido experience. Hopefully, future articles will address each in detail as underwater video emerges as one of the preferred visual vehicles of sportdiving.

BELOW: *From left, Aquavideo PV12, PV10 and PV8 custom housings.*



by Dick Masten

VIDEO .. VIDEO .. VIDEO .... This year's buzzword circulates among friends and acquaintances at social gatherings, business meetings and now, aboard diveboats and in the bars of most diving destinations. For the diver, VIDEO represents the most exciting new development to reach the scuba scene in recent years. The ability to share your favorite diving adventure with friends and family while seated in the comfort of your own living room before the television set is easily within reach.

Most households either already own or are, at least, contemplating the purchase of their own first videocassette recorder (VCR). With discounted equipment prices and an increase in consumer awareness with regard to video capabilities, those numbers increase daily. But for the scuba diver, several basic questions about video remain. Should I buy now or wait for the "new" video equipment to be developed? What type of equipment should I buy? Is video equipment easy to use? How bulky is the equipment? This article will serve as a brief introduction to VIDEO for the sport-diver and hopefully answer some of those questions.

Video — The Medium

For years, the public has been entertained in movie fashion. From early cinema to television to home movies, people have enjoyed viewing action sequences depicting drama, adventure, scenery, and romance. The most important single element of this entertainment is the visible *movement*. If a picture is worth a thousand words, what then is a *moving* picture worth? As sportdivers, we have been thrilled over the years with the cinematography of Jacques Cousteau, Stan Waterman, and other great diving filmmakers. Most of us have silently longed to be a part of the underwater film crew capturing those exciting underwater sequences. Expensive equipment and processing/production costs have prohibited all but a few individuals from trying their hand at underwater moviemaking. Home movie (8mm/Super 8) formats were available, but involved film and processing costs and the need for a screen and projector to view the film.

ABOVE: *JVC "videomovie" camera with Aquavideo PV8 custom housing*

The arrival of videotape eliminated most of those headaches and came complete with a long list of advantages. Since a videocassette recorder untilzes magnetic tape, as opposed to emulsion film, no developing/processing is required. The tape is reusable, inexpensive, available for immediate viewing, comes within its own cassette in much longer lengths than film and — oh, yes — captures sound as well as sight! It is viewed on any home television set (no more projectors, screens, or requests for the "lights") or, in the field, even through the camera's viewfinder. Sequences of tape can be assembled electronically with a second recorder (editing) to form a finished story and sound/-narration easily added from microphones, audio cassettes, turntables, or other audio sources — All in a push-button fashion, no cutting — no splicing, your hands never touch the tape!

The versatility of the videocassette recorder (all of the above features plus the ability to tape TV/cable shows, play prerecorded tapes and movies, times programmability for independent operation) is further complemented by the features of the video camera. Small, lightweight, and extremely sensitive, today's home format video cameras are available with autofocus, zoom controls, automatic exposure (iris), and character generation capabilities (for adding titles, time-date, etc.) allowing the user to achieve dramatic, professional results with what basically amounts to a "point and shoot" approach to filming (correctly termed — "taping"). NOW —Try all of that with your Nikonos.

In the production of a videotape, you become the cameraman, sound engineer, producer, (after all, you bought the tape even if it did only cost $5.99), director (you set up, start, and stop the scenes "CUT"), script and casting consultant (you pick the story and your dive buddies), as well as the final film editor. If you have the ambition and the imagination, all you need is the equipment to allow for endless possibilities.

VIDEO EQUIPMENT CHOICES FOR THE SPORTDIVER:

Home video comes in two basic formats: VHS and BETA with VHS systems being the overwhelming favorite of customers. More companies manufacture VHS

Video ... Video ... Video

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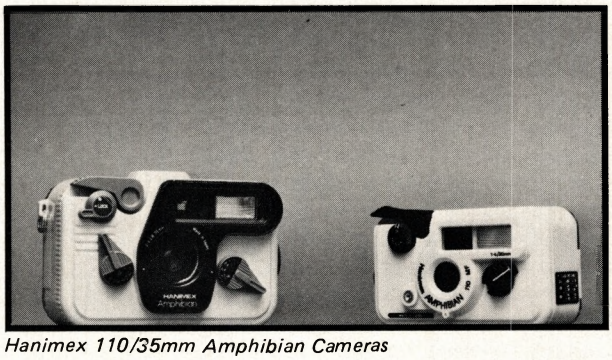
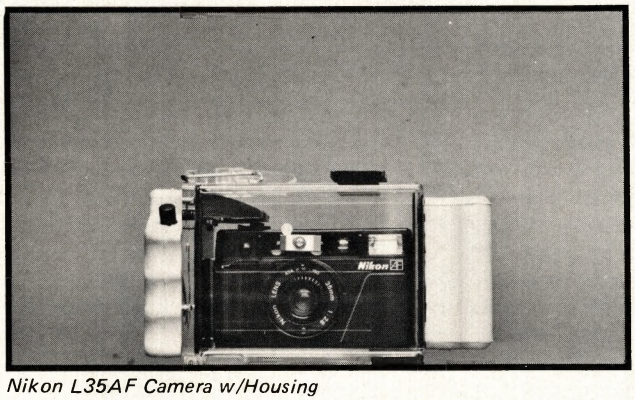


Hanimex 110/35mm Amphibian Cameras



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Underwater Magic Made Simple

Article by Bill Lovin

It is the winter of our discontent ... at least for avid underwater photographers.

I get the blahs in winter, especially when I look at all that underwater photo gear rapidly collecting dust in the closet. In an effort to beat those winter blues and add a little spice to my underwater slide shows, I planned a series of projects for this winter. Since I couldn't go diving and take new pictures, I decided to create new images using photographs I already had.

The essential element in my plan was a slide duplicating attachment for my 35mm camera. The slide duplicator consists of a bellows extension which allows the camera lens to focus on a small area and a device for positioning a slide in front of it. Most often, photographers use a slide duplicator for making exact copies of their precious slides, correcting over- or under-exposure or cropping. But with a little imagination, the slide copier is capable of doing some fairly magical things.

"With a little imagination, the slide copier is capable of doing some fairly magical things."

Perhaps the simplest bit of magic you can perform is simply to add or change the colors of your slide. Using vivid color filters or theatrical gels, you can add striking color by copying the slide with the filter between your light source and the slide copier.

Sandwiching is another technique that can produce exciting images, quite often from less than exciting slides. Choose slides that have a single strong element, a seagull against a white sky and a stand of sea oats with nothing else in the picture. Sandwiched together, they produce an exciting shot of a seagull with wings spread over a dune. Take the same shot of the gull and sandwich it with a blazing sunset for a similarly exciting effect.

For years, I've admired the exciting fish-eyes photographs produced by shooters like Rick Frehsee; yet, I've never been able to justify the cost of a fish-eye lens for my Nikonos. However, with a perfectly round hole punched in a piece of opaque cardboard and my slide copier, I can create a fish-eye effect using a slide which exhibits some wide-angle distortion.

Another relatively simple trick which can produce exceptional images is double exposure. Double exposing works well for combining elements which are set against dark backgrounds. Two red sponges photographed at night can easily be combined with a photograph of a diver silhouetted in a mouth of a cave.

Using double exposure technique and a little creative paper cutting, it is even possible to combine picture elements such as a dive boat on the surface and a diver just below.

Underwater photography, for many of us, is a creative and stimulating pursuit. With projects such as these, it can provide hours of personal satisfaction all year-round, limited only by your own imagination.

Bill Lovin is a film and videotape producer often working in the underwater field. He has traveled extensively, shooting in China, South America, the mid-East and throughout Europe. Through his company, Marine Grafics, he has produced nine underwater films and television specials. He lectures and appears at film shows around the U.S.

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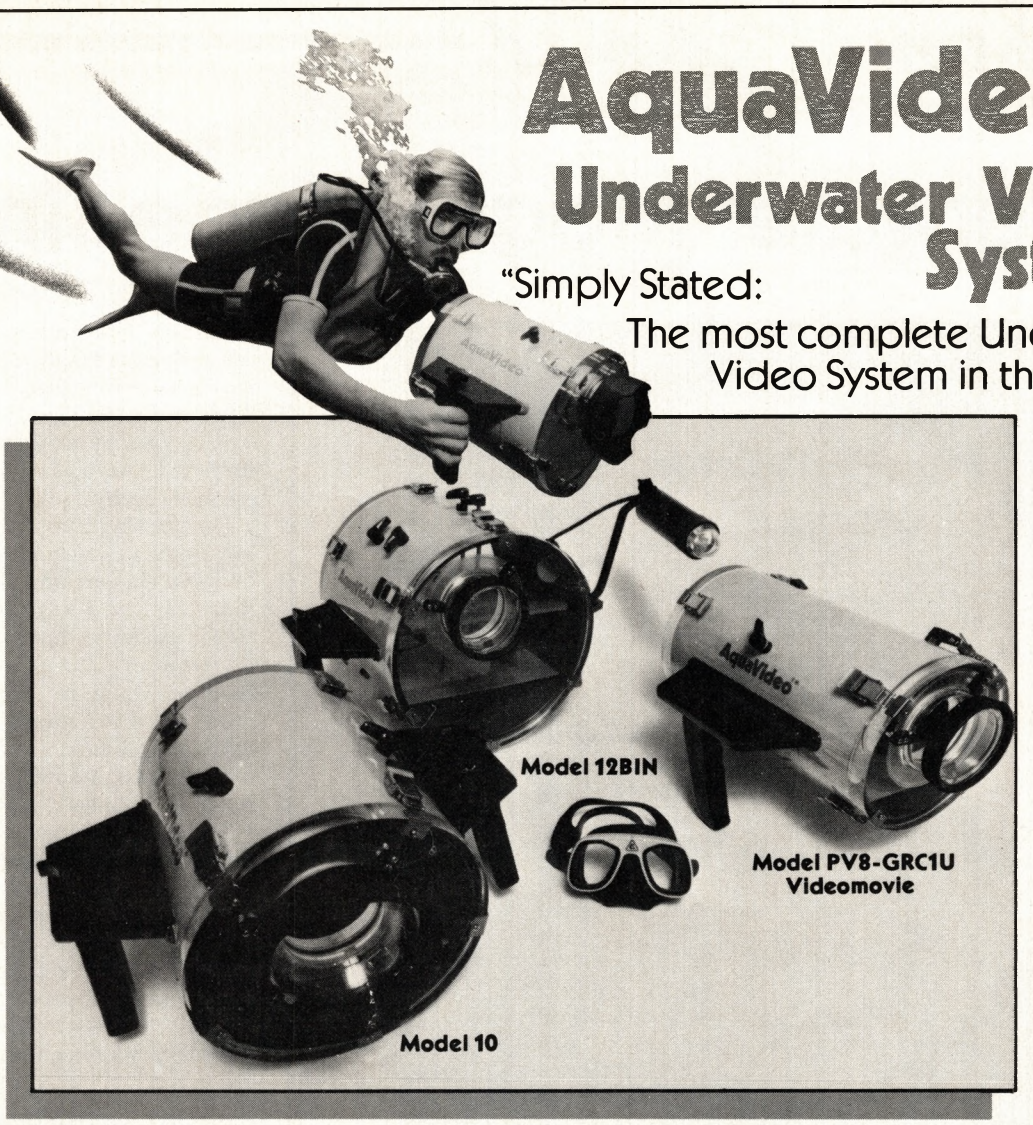

Photography by Rick Frehsee
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Viva la Difference?

This article by Dr. Bruce Bassett of the Human Underwater Biology Lab in San Antonio is not just for women. Anyone directly involved with women in the area of scuba diving should read this. Even if you've never met a female who scuba dives, you might want to read this and reaffirm that there really is a difference!

Initially, most compressed air divers were men, and all military divers were men. The physiological studies of the effects of diving were therefore conducted on men; usually young men. While the effects of diving on everyone else — older men, children and particularly women —have not been in the laboratory, some observations on the possible effects of diving by women have been made.

Physical Factors

Most sports medicine authorities agree women can participate on an equal basis with men in most sports, providing size and other anatomical differences are taken into account.

Size does have an impact on the use of scuba gear, which in the the past was designed to fit the average man. Manufacturers have now been producing equipment that is sized to the woman diver — to the benefit of youngsters and small-statured males as well.

Women have a greater proportion of fat per pound of body weight. Also, women have 23% muscle, compared to a man's 40%. But, because of hormonal differences, a woman can increase her strength 50 to 75% without increasing muscle bulk. Since nitrogen in compressed air is five times more soluble in fat than in non-fat, this may represent a liability to the woman in terms of decompression problems, but this has not been proven in the laboratory.

Decompression Sickness

In comparing men and women exposed to altitude at the U.S. Air Force's School of Aerospace Medicine over a ten-year period, this author found that the incidence of decompression sickness was greater in women by a factor of four, and that this difference was statistically highly significant.

Further comparisons in this study showed that women, when compared to men who were exposed to the same altitudes in an identical manner, had: 1) more skin symptoms; 2) more rapid onset of bends pain; and 3) more recurrences and lasting effects of decompression sickness.

Susan Bangassar, Ph. D., who conducted the *Medical Aspects of Women Divers Survey,* also, found a difference in incidence of decompression sickness between male and female scuba instructors in Southern California. Women had a 3.3-fold greater incidence than men; another significant statistic.

While no laboratory research has been conducted to explain the possible differences, both anatomical and physiological differences can be hypothesized to explain the increased apparent susceptibility of women to bends. Factors which might be expected to increase the risk of bends in women include: 1) a greater proportion and different distribution of body fat; 2) fluid shifts and fluid retention as related to the menstrual cycle; 3) cyclic hormonal changes; and 4) the use of oral contraceptives.

Other factors that need to be addressed in discovering differences in bends susceptibility include blood flow, blood clotting, blood vessel dynamics, and vasoactive substances.

As for recommendations for avoiding bends, this author recommends diving conservatively and well within the limits of the no-decompression tables. Since there are no "tables" for women divers, this, of course, refers to the same old U.S. Navy-derived tables we all use a sport divers.

Effects of Temperature

Women have more body fat on a percentage basis, and subcutaneous fat does serve as a good insulator due to the lower thermal conductivity of fat. However, in a study of women's responses to cooling in water, it was found that a second factor, also, determines an individual'a sensitivity to cold. A large ratio of surface area to body mass is found in lean women with less than 27% body fat. This causes cooling at a faster rate. Above 30% body fat, men and women are equal in their sensitivity to cooling.

On the other end of the scale, a woman is, also, likely to suffer from over-heating sooner, since sweating in women does not begin as soon as it does in men. Also, women have a lesser number of functioning sweat glands to aid in evaporative cooling.

Pregnancy

More questions regarding diving during pregnancy have been asked of this author than all other questions combined regarding diving women.

As stated, the primary area of concern is related to the possible grave effects on an infants body structures should bubbling occur in the fetus during the first trimester, when all organs are being formed. A case history received from Australia deserves attention and may be related to this area of concern.

A woman made 20 dives during a 15-day vacation, which occurred 40-55 days after her last menstrual period. Most dives were to 60 feet or less, except three dives to 100 feet and one to 120 feet. Some dives did require decompression stops, which were reportedly carefully controlled (along with ascent speeds). However, on one dive to 60 feet, she made a rapid ascent when her buddy had a problem. She noted feeling tired after this dive, but had no pains or other symptoms.

This diver's baby was born with multiple defects and deformities of the eyes, tongue, neck, jaw, hands, fingers, hip joints, knees, and feet. The type of deformities and ***time at risk*** were noted to be similar to the danger of the drug Thalidamide.

Again, one case history does not prove anything, especially where other pertinent information and history are provided. However, if in fact the effects ***were*** related to diving, they correlate with what the diving medical community has postulated concerning bubble effects on the developing fetus. ***The unknown risks are too severe to take unnecessary chances.*** Decompression is only one hazard to the pregnant diver's developing fetus. Other hazards include hypoxia and oxygen toxicity — too little or too much oxygen.

The first study of the influence of decompression on developing fetuses was performed on dogs. It indicated the fetuses were resistant to bubble formation even when the mother had lethal DSC and bubbles were present in the amniotic fluid. Similar findings were produced in experiments with rats.

Later studies using pregnant sheep produced opposite results — massive bubble formation in the fetus while the mother was bubble-free.

Firm conclusions cannot and must not be drawn from such preliminary studies. Of course, you should not be lulled into a false sense of security because a few acquaintances dived while pregnant with no apparent harmful effects on the

Continued on page 65

Diving Etiquette

Cross Currents

DIVER'S DON'TS

Like everything in life, when more than one person is involved in something, there will be gripes about the different approaches used by the various people involved. Scuba diving is no exception. In fact, in this adventurous sport, you'd often have to use ear plugs to keep from hearing the complaints of the divers about other divers' thoughtlessness.

So, we at SCUBA TIMES thought we'd give our readers a chance to sound off about just what it is other divers do that bother them. The response was tremendous. We can't run all of the letters, so we decided to list the points. Many of the letters were almost duplicates. It seems a lot of the same things bother a lot of you!

Concerning nature, major abominations include the following: breaking off coral, "trading up" abalone, discarding rubbish in the ocean, killing or wounding ocean creatures for sport rather than for a food source, removing artifacts from u/w preserves, chlorinating the lobsters, dynamiting the reefs, stealing lobsters from other's traps and carelessness in general.

As far as violations against other divers, these infractions were submitted: buddies who swim off and then you spend your whole time searching for them instead of searching the area together, people who arrive at the dive boat one minute before it is to leave and hold up the whole show while they spend ten minutes loading their gear and settling in, people who leave their gear all over the place, people who carelessly step on other's gear, buddies who take their sweet time gearing up while keeping you waiting in a hot wet suit with all of the heavy equipment strapped to you, people who don't pre-check their gear and end up in a panic at the last minute, people who handle spear guns carelessly-both above and under the water, and people who give confusing u/w signals.

Do any of these points on the list sound like anything you do? If not, keep up the good work and spread the word. If so, how about giving nature and the other divers a break by being more considerate? In the long run, you'll reap the benefits of cleaner and more natural dive sites and friendlier and more pleasant dive buddies.

Next month, *Cross Currents* will concern itself with the question of just how far into the world of diving should federal regulations extend. Some laws are necessary, but unlike the huge sport of boating that has lots of federal regulations, scuba diving is relatively small. What do you think? Is the long arm of Big Brother about to reach a little too close to your regulator for comfort?

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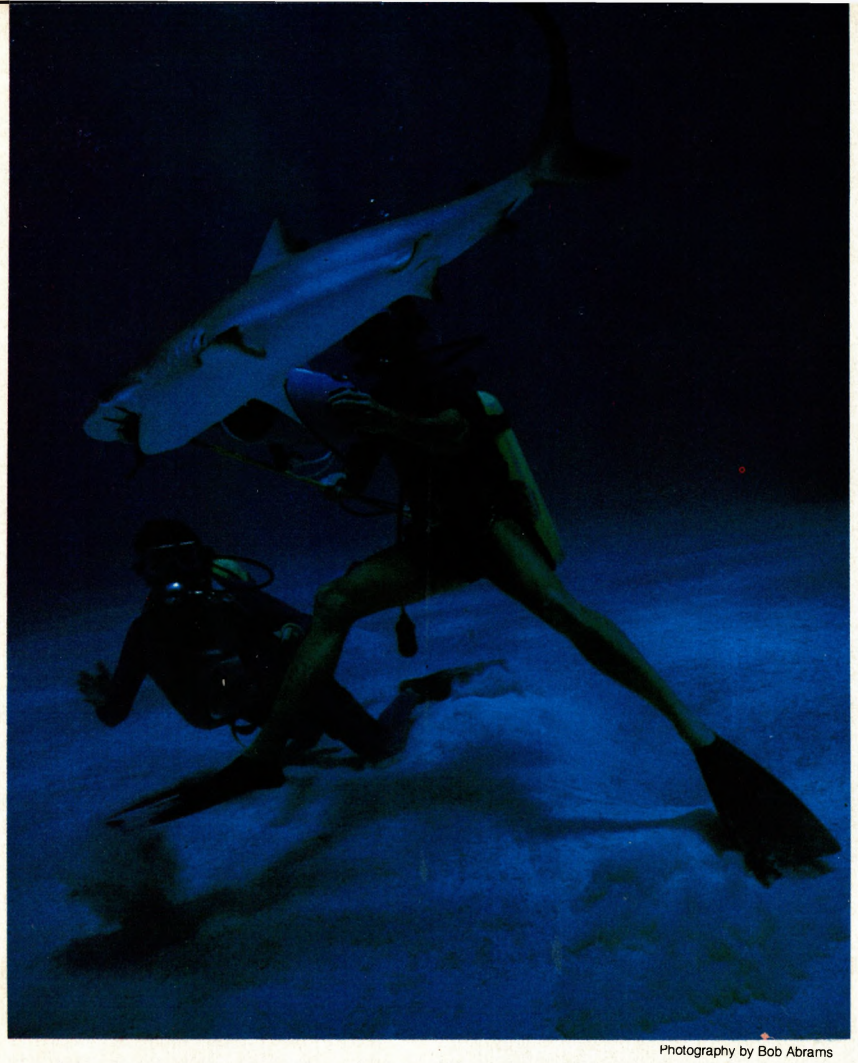


Photography by Bob Abrams

Left: *Divers with sharks in the Caribbean.*

perceived what was happening and pulled him in by the back of his weightbelt.

Four days later, he was diving Little Coho when four divers in a 16-foot boat came by and asked him for some information - they wanted a good place to go diving. Johnson told them about the shark and advised them to steer clear of the area he had seen it in. The four either thought he was exaggerating (there was a lot of *JAWS* talk going around), or they thought he was trying to conceal a hot spot, or they just happened to steer themselves to the spot where Johnson had seen the shark. Actually, it was a combination of all of these things.

The four - Rob Rebstock, his brother Scott, and friends Tom Hesseldenz and Jeff Morris -anchored their boat, and Rob was first over the side. He was treading water and adjusting his equipment when the shark hit.

"All of a sudden the ocean exploded all around me," Rebstock recalled. "It took me all the way out of water in its mouth and dropped me right by the boat." One can imagine what his friends felt like when they saw this scene.

Morris was closest and simply reached over and grabbed Rebstock by the back of the tank and pulled him into the boat. The shark had put six very clean holes into his lower left leg, and his right leg was gashed up to the thigh.

The first thing one wants to ask a person who has been in the mouth of a great white shark is - what did the person feel like? On this point, Rebstock is as profound as Johnson.

"I wasn't conscious of being hit by a shark. It was like being hit by a car."

What about pain?

"A broken ankle felt worse."

Rebstock's injuries, which were described as "major" by a California Dept. of Fish and Game report, were mainly because his legs went down the gullet of the shark, the right leg up to the thigh, the left kicked back.

Rebstock says that his friends in the boat had more severe mental repercussions from the incident than he did.

"They saw it and I didn't," he said.

"Eat them before they eat you," is a table sign in an Eastern restaurant. The shark fishing business is better than ever. As the price of swordfish and other prime filets go up and up, people are finding that the less expensive shark meat is rather good - many say better - than any other fish on the market.

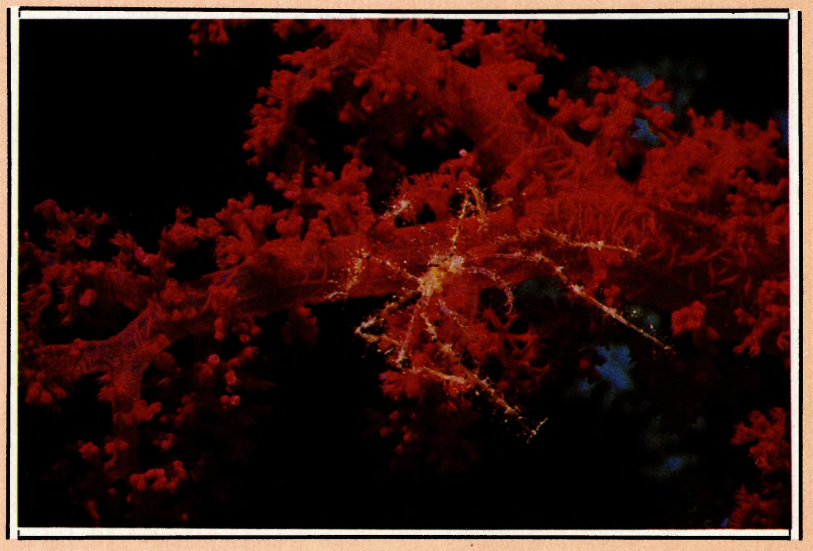
For those who are not as interested in shark behavior or recipes as they are in shark prevention, there is help on the way. There is a mesh suit that promises to protect the wearer from bites, and there is a potion that, when thrown at the shark, gives it instant lockjaw.

For years, scientists have been testing chemicals on sharks, - either to kill them, stun them or turn them away. Now there is something that gives them lockjaw.

Dr. Eugenie Clark, a shark authority (who wrote *The Lady and the Sharks* in 1969, about her experiments as director of the Cape Haze Marine Laboratory in Florida), is someone you can't imagine tangling with sharks. But she does. During one of her many trips to the Red Sea, she discovered the strange properties of the fish called the Moses sole. The milky substance emitted by the fish had a paralyzing effect on sharks, Clark learned, and subsequent tests proved that one thimbleful of Moses sole fluid was enough to keep a shark from biting for quite some time. Already, one suntan lotion manufacturer is putting the milk of the Moses sole into its lotion - presumably with the unique advertising idea that one can become brown all over while repelling sharks at the same time.

Scientists study them, divers try to avoid them, adventurers chase them, movie-makers exploit them, and swimmers don't like to think about them. One thing is certain about sharks: no one feels indifferent to them.

THE RED SEA AFTER DARK



Photography by Eric Hanauer

Article by Eric Hanauer

Sunset. You are comfortable, warm and dry, sipping tea on the carpeted floor of the dining tent while the wind from the Gulf of Suez howls outside. You have had a good day of diving the wrecks of Abu Nahaas, baked a while in the desert sun, swapped tall tales with your buddies and the Egyptian guides. The equipment has been put away, and all you want to do now is relax until dinner. You know that dinner is a major affair, and it will be served late, according to local custom. The last thing in the world you want to do right now is to climb back into that wet, clammy suit and go night diving.

Sound familiar? We all fall prey to that warm comfortable feeling on occasion. But in the Red Sea, that feeling can cheat you out of some of the best diving the area has to offer. The sea becomes another world after dark.

It isn't quite as easy here as it would be at home or in a well developed resort area. Egypt is extremely security conscious, as are most Middle East nations. No exit or entry is allowed from a harbor or beach after dark, all the popular places are patrolled. The concern is more with smugglers and drug runners than with spies. Nevertheless, it doesn't pay to argue with people carrying guns, especially when it's their country. So the only way to go night diving is to stay overnight on a boat, or to camp on one of the desert islands.

Camping with an Egyptian dive operation isn't exactly the way it was in Boy Scouts, though. First, they do all the work, including KP. The tents are a big improvement over GI issue; tall canvas wall tents with colorful roofs and fringes. With the carpeted floors and electric lights, you feel like

Lawrence of Arabia. Our camp was located on Gubal Island, at the mouth of the Gulf of Suez.

I traveled with the advance party to set up camp. Our small Egyptian fishing boat looked like a seagoing version of a Model T from the dust-bowl days. Mattresses, boxes of provisions, carpets and compressors were piled and lashed to every square foot of deck space. There was barely room to move around. Led by Captain Mahoued, a thin, wiry fisherman with a limited vocabulary of broken English, the crew looked like a bunch of pirates. What they lacked in language, however, they made up in seamanship. Consulting neither map nor compass, Mahoued unerringly guided the thirty foot vessel around reefs and through passages in the moonless night. The sea was flat and calm. I lay on the mattress looking up at the Milky Way, amazed at the vast number of stars which could be seen in the desert sky.

As we approached the fringing reef around Gubal Island, the two-banger diesel slowed to trolling speed, but the activity level of the crew picked up. With no lights to illuminate the winding passage through the reef, a lookout on the bow called instructions back to the tillerman, all the while watching for the dark patches which indicate deeper water. "Mashi!" was the word which meant "Go." A tension filled twenty minutes of zigzags and

Opposite: *A small spider crab walks across a soft coral. This is the most common nocturnal crab.*

Right: *Diver Mia Tegner glides along the wall at Ras Nasrani, Sinai. Colorful soft coral frame her descent.*

"... No matter how often you have done it, there is always just a touch of apprehension before jumping into the dark water ... But as you descend and your light beam paints the reefs with color, subliminal fears are forgotten ..."

course changes were punctuated only with the directions from the lookout. My respect for Egyptian seamanship grew with each "Mashi!" Finally, the keel dug into the beach sand, and we had arrived on Gubal Island.

Driven by the tales of the guides and the other divers, you reluctantly leave the tent, climb into the cold, damp suit and join the others on the boat. The passage through the reef now marked with buoys, the skipper chugs the diesel toward the island's northern point. The anchor drops, and everyone is ready. No matter how often you have done it, there is always just a touch of apprehension before jumping into the dark water. You check your gear with just a little more care, and once underwater stay just a bit closer to your buddy. But as you descend and your light beam paints the reefs with color, subliminal fears are forgotten. The brilliant colors of the Red Sea are even more enhanced when illuminated directly, without the filtering effect of many feet of water overhead. You are in an underwater fantasyland, wondering how different the familiar reef will look now that the night creatures have taken over.

The shallows are the realm of the basket stars. Nearly everywhere we point our lights, the beam illuminates their gnarled tentacles, sifting the water column for plankton. They are some of the largest I have ever seen, with armspans almost as long as my body. During the day, these nocturnal echinoderms are seldom noticed, remaining curled in an inconspicuous ball. But at night, they dominate the upper reaches of the reef, looking like Medusa's head of snakes. When hit by my light beam, the reaching arms begin to curl and retract, as if being burned by the light. Although I realize the creatures are quite harmless, the reaction reminds me of the vampire legends when Dracula recoiled from the light of the sun.

Basket stars share their territory with another strange echinoderm, the crinoid. Although crinoids are found in all oceans of the world many are out of diving range. The Red Sea's varieties are common in shallow water, both night and day. Colors range from deep primary shades to delicate pastels and multicolored patterns. During the day many are coiled, others rest passively on gorgonians or soft corals, feathery arms spread out flat. But at night, they perch on the shallow reefs, arms slowly waving in the current to catch planktonic creatures.
Occasionally, dissatisfied with its hunting, a crinoid will fly to another coral head by delicately undulating its twenty-five to thirty arms. How such a primitive creature can coordinate so many appendages is one of the sea's greatest mysteries. Crinoids are true living fossils, having changed little since the Cambrian Age some six hundred million years ago.

From below the surface, we could see many lights blinking and flashing below. They weren't the tiny sparklers one usually sees in nighttime waters, but large, bright, cold blue lights. Underwater, the same lights can be seen around the reef, especially when we turn off our own. Called Le Petit Puegeot by the French because they look like miniature automobile headlights, they belong to Photoblepheron, the flashlight fish. Only three inches long, the tiny fish usually swim about the reef in pairs. A pouch below each eye contains millions of luminescent bacteria, similar to those which cause the glow of fireflies. As a matter of fact, flashlight fish look like giant fireflies when seen in total darkness.

Rarely seen during the daylight hours, crabs of many varieties roam the reefs at night looking for food. Tiny white spider crabs march across the soft coral, looking like snow covered Daddy Long Legs. Orange hued crabs, about the size of a fist, remind one of cartoon characters from Sesame Street as they stare back at the diver, claws ready for defense. But perhaps the most unusual specimen is the decorator crab. For camouflage, he attaches tiny gorgonians, soft coral, and other marine life to his carapace. Thus attired he waits for unwary prey to blunder along. Only as he moves away from the diver's light does his presence become obvious.

Imagine a nudibranch about a foot long that swims through the water column by undulating its body. No, that's not a nitrogen induced fantasy but the Spanish Dancer. Colored a deep shade of red with a white fringe, this nocturnal mollusk is sometimes seen feeding on soft coral.

As the nighttime fish roam the reefs, the day shift sleeps in crevices within the coral. Large parrotfish, skittish by day, can be photographed in wide-eyed slumber. Protected from predators and parasites by a mucous cocoon, their fused front teeth are displayed in a mocking grin. Often they can be touched and petted while sleeping, but sometimes will awake suddenly and bolt.

The dangers of night diving in the Red Sea are often unexpected ones. One evening last summer, the boat set off to dive the shallow wreck at Gubal Island. Having previously

Above: *Diver Mike Curtis is framed by a sunburst as he hitches a ride on a turtle.*

dived it at night, my buddy Mike Curtis and I talked our dive guide, Hani El Meniawi, into dropping us off at the north wall while his customers dived the shallows. Hani sent a crew member, Ali, to accompany us in a Zodiac. We thought this was totally unnecessary and not in keeping with our image as macho divers. Before descending, we told Ali we didn't need him, and suggested he take the Zodiac back to the dive boat.

Descending to eighty feet on the wall, we noticed a bit of a current. As the textbooks advise, we decided to begin the dive upcurrent, then ride it back to our entry point. But Red Sea currents sometimes ignore the textbooks. At first, this one was just mildly irritating as we gave our attention to sleeping parrotfish and drowsy groupers. By this time, the current had become stronger and had advanced from the irritant to the hassle stage. Our air over half gone, we ascended to forty feet and decided to go with the current for a while, holding on when we saw something interesting. After a few minutes of this, things were getting unpleasant enough for us to abandon our ideas and surface. We had overshot the starting point and were drifting in the general direction of Hurghada. The lights of the boat seemed a long way off and, despite a lot of grunting and kicking, we weren't getting any closer. We might be swimming yet, except that Ali hadn't listened to us and was out there with the Zodiac. A couple of thoroughly chastened macho divers, we eagerly accepted his offer of a lift.

The skill and professionalism of the Egyptian dive guides was a pleasant surprise. Like many American divers, we had heard the rumors about diving in the Red Sea being finished once the Egyptians took over the Sinai. After all, a country which loses a Six-Day War can't possibly have the expertise to run diving operations. Nothing could be further from the truth. For one thing, the town of Hurghada on the mainland has been a major destination for European divers since the mid-sixties. Five dive operations are located there. Now that the northern Red Sea is united under Egyptian control, visiting divers are not limited to just the Sinai or the mainland, but one can see both on the same trip.

Recognizing that Ras Muhammed, the tip of the Sinai, is one of the world's most spectacular marine environments, the government has declared it a national park. Spearfishing is banned throughout the Egyptian Red Sea. For a third world country with poverty and hunger at home, this degree of environamental concern is impressive.

Visitors soon realize that this is still frontier. The Red Sea is wild and unspoiled because of low population and slow boats. The easy resort diving of the Carribbean isn't here yet, and may be a long time coming. Time isn't as important in Egypt as it is in the United States. With five thousand years of recorded history behind them, a few minutes here and there doesn't loom quite as large. The Egyptians have a word for it: "Insh'allah," or "In the hands of God." If the dive boat didn't leave on time, it's because Allah didn't want it to. Other things which we take for granted, like telephone calls, fast transportation, and running water are still minor miracles. Even at the posh Hurghada Sheraton, fresh water is turned off during the day because it has to be brought by pipeline from the Nile, across a hundred-fifty miles of desert.

You often appreciate things more if they don't come easily. Returning to camp from the night dive, the wind is still blowing off the Gulf of Suez. You are cold and wet, and will be salty in the morning. But you relish the memories of the color, the variety, and the excitement of the Red Sea after dark. Tomorrow night, you may again be reluctant to leave the warmth and comfort of your tent. But you will. And you feel sorry for your friends in the plush resort.

Photography by Bill Lovin

Article by Cindy Hancock

A HEATED AFFAIR with the sun

Each of us has that one special place that beckons us back — that one place you long to be when the weather is chilly and the people are all strangers. For me, that place is the Bahamas!

Imagine a place where the people speak a soft mixture of English and Spanish, and although you can understand what is being said, you are constantly aware that you are on foreign shores.

Speaking of the shores, the lovely white beaches that grace the Bahama Islands are ideal places to get lost for awhile and experience that rare feeling of total freedom. Located just fifty miles from the Florida coast, the Bahamas offer numerous deserted shores. The Europeans, especially the Germans, have discovered the pleasures of reclining lazily on the warm Bahamian sands while letting the sun kiss you completely golden brown. In the Bahamas, if you use discretion and don't get too wild, you can get very wet!

The government of the Bahamas tends to take a conservative view on nudity; however, while checking with local authorities, I learned that usually, the person is just asked to slip back into swimwear. Then, the sunbather can simply stroll down the beach until once again alone and then strip down and continue the heated affair with the sun.

During my travels along the Bahamian beaches, I've seen many upturned-smiling faces and friendly waves in my direction as the sunbathers lay there cozily relaxed in a completely natural state. Nudity isn't an issue; like most other facets of the Bahamian lifestyle, nothing is rushed; tranquility reigns. Getting completely wet in the Bahamas is pure joy because the water is crystal clear, warm, and filled with magnificence. As far as the scuba diving goes, bathingsuits-optional are completely acceptable. All you have to do is make plans ahead and clear it with the guides. Once again, one dive master explained that nudity isn't an issue in the islands; you just have to be in agreement with the other divers on the boat. Plus, you have to watch out for the colorful yet razor sharp coral that decorates the ocean floor.

If you want to make absolutely certain that the warm Bahamian water flows gently over and between your bare limbs, contact the *Taurus*. This 57-foot cruiser offers nude cruises in the Bahama Islands. Call (301) 849-8101 or write Box 163, Crowsville,MD 21032, should you get the urge to go buff in the Bahamas.

Sure, there are lots of private beaches in the world, but none so absolutely pleasant where the casual carefree lifestyle of the people and the supreme beauty of tropical nature come together with such splendor. And, when I'm at my desk, and the clouds outside my window look gloomy, and the faces that surround me seem distant and alien, I turn my thoughts to the Bahamas and daydream of the exquisite serenity I have found there frolicking nude through the surf.

hours of preparation to get there. For those of you interested in getting into this line of work, here's the breakdown:

Pre-production: Includes planning, writing, correspondence,packing, maintenance, shopping, etc.
. . . . . 100 hours
Travel time: By air and land
. . . . . 150 hours
Boat travel . . . . . 265 hours
Camera maintenance, film loading and logging: Two hours a day
. . . . . 70 hours
Dive prep at one hour a day
. . . . . 35 hours
Topside filming . . . . . 40 hours
Post-production: writing, editing, etc.
. . . . . 480 hours
. . . . . Total . . . . . 930 hours
(I haven't included eating, sleeping, or other daily functions because those are things we have to do anyway.)

From the time I began preparing for this trip, until I have the finished film in the can, I will have put in over 900 hours to be under water just 54 hours. That's 17 hours of topside work for every hour actually diving. It's like starting at 6:00 am, breaking half an hour for lunch and finally getting into the water between 11:00 pm and midnight. But, of course, it's still all worth it, or we wouldn't do it.

And now, as I sit at my desk here in Los angeles typing up this story from my vast disarray of notes, I take a moment to reflect on how easy it is to forget all those preparatory hours along with the many small irritations one experiences on such a trip: the coral cuts, stinging hydroids on the ankles, sickness, equipment failures, the hours of tedious camera maintenance and film loading, etc.

Instead, I think about drifting along the south wall of Jessie Beazley into great clouds of jacks and surgeon fish and unicorn fish. A clown triggerfish scurries along 40 feet below me and disappears into my favorite cave, framed by giant seafans and adorned with jagged-toothed scallops. Not far away is the emperor angelfish or is it the blue-faced angel? No matter, they both take up residence here.

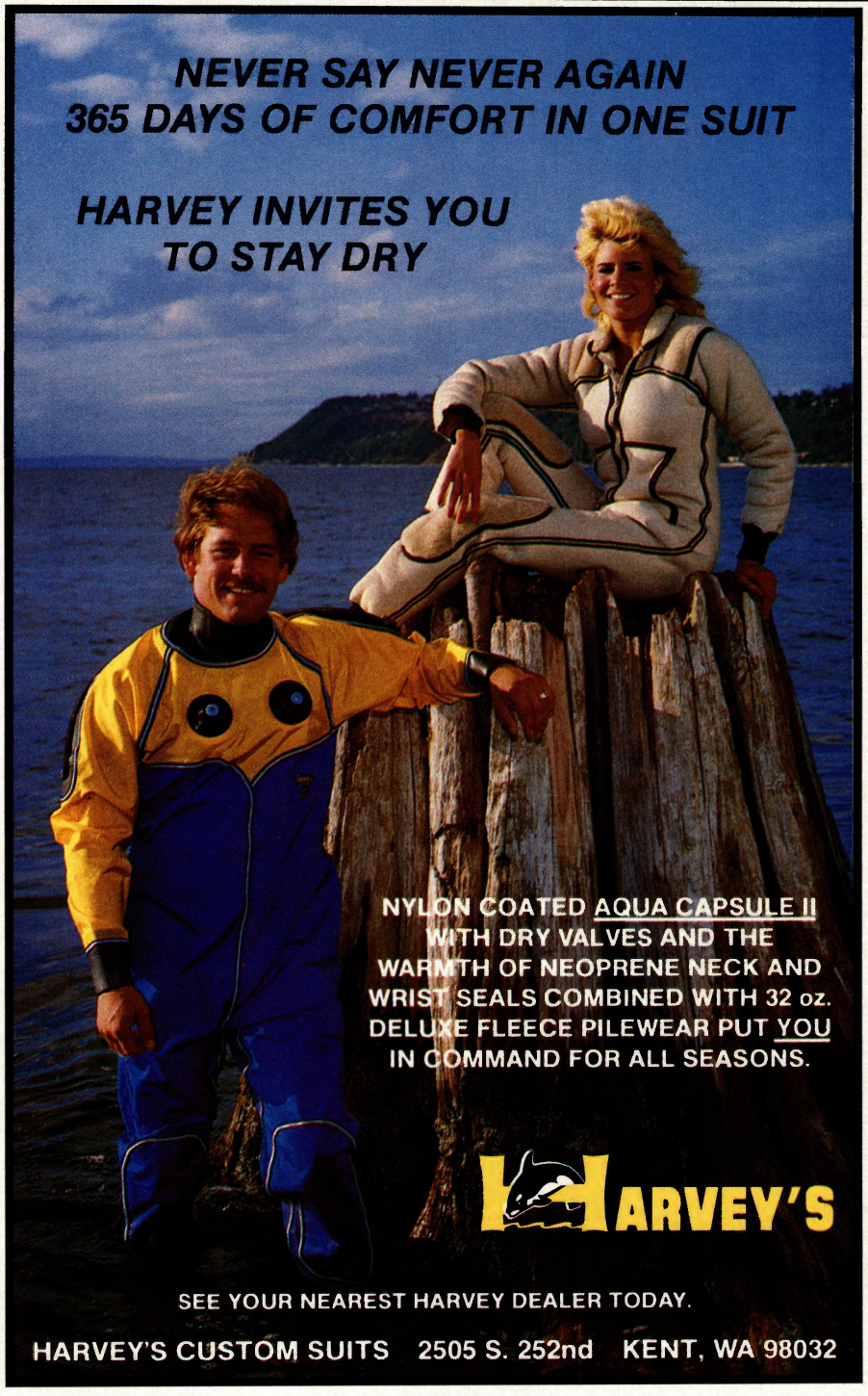
I think of the magnificent sunsets and sunrises and the glassy seas that glisten with their crimson colors. Thank goodness these are the memories that stay with us. We're home now, and rested, and I'm into the middle of post-production. I'm cutting 20,000 feet of film down to just a thousand. But, it's a part of film-making that I truly love, almost as much as I love being under water.

Half a world away, the Sulu Sea and the Mindoro Sea are exotic, exciting places to dive. I'm going back next year just to see if I can cut down the amount of topside prep time to underwater time.

Continued from page 12

Once pregnancy is confirmed, it would be best if the diver discontinued diving for the duration of the pregnancy. If diving is to be undertaken, single dives per day for reasonable durations to depths of 30 feet or less ***should not*** be harmful. But even this level of diving activity should be undertaken only with the informed consent of the pregnant diver's physician(s).

mother or her offspring. The name of the game in science is statistics, not trusting your good luck.



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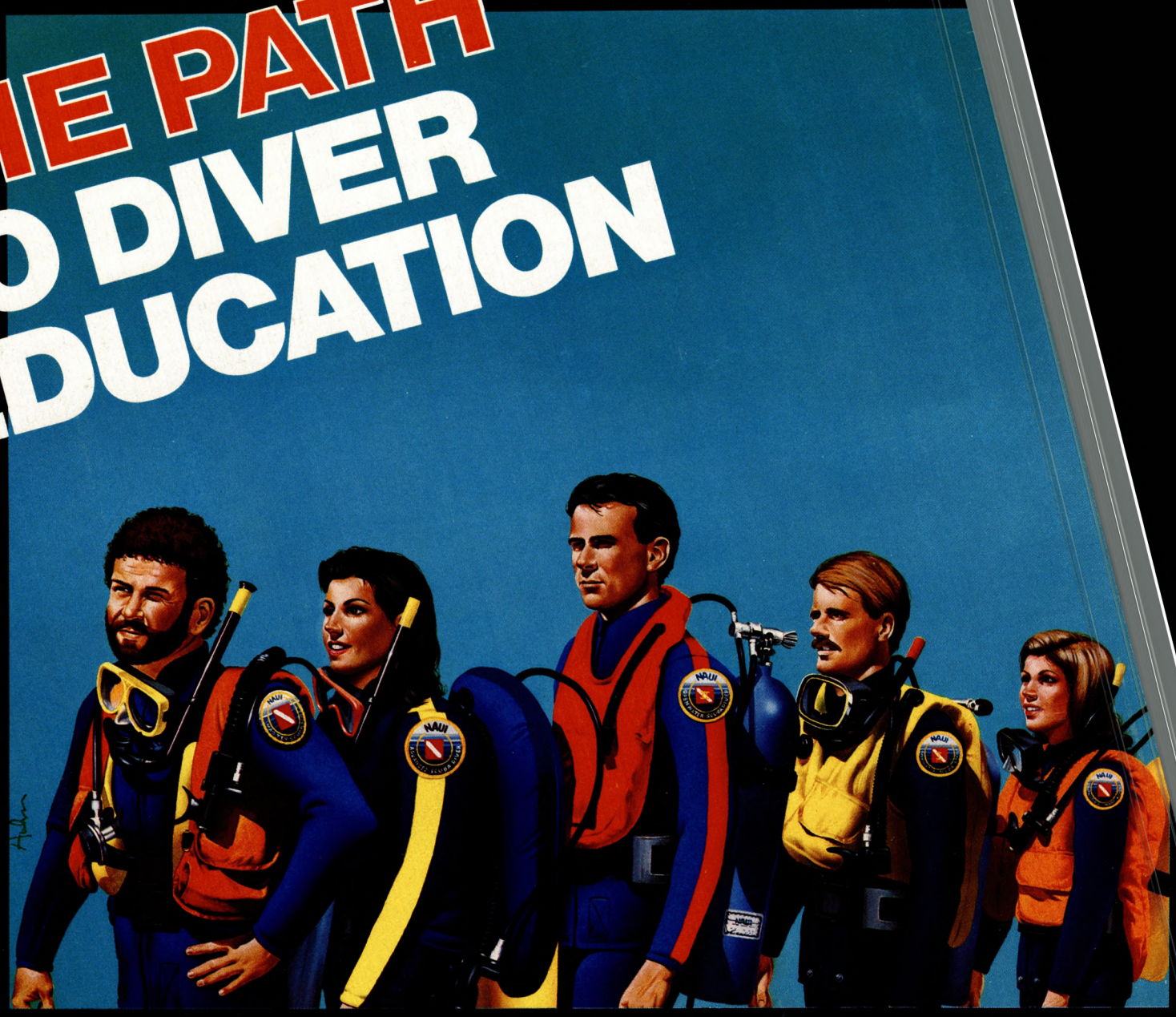

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